

GLOBAL PULP, PAPER &
PACKAGING INDUSTRY



TRANSFORMING TO INDUSTRY 4.0

ARRELIC INSIGHTS

ABOUT

The structure of the industry landscape is changing. The changes are not dramatic individually, but the accumulation of changes over the long term has now reached a point where they are making a difference. Consolidation has been a major factor in many segments of the industry. The big have become bigger in their chosen areas of focus. At the aggregate level, the world's largest paper and forest-products companies have not grown much, if at all, and several of them have reduced in size. What they have done is focus their efforts on fewer segments. As a result, concentration levels in specific segments have generally, if not universally, increased. In some segments, such as North American containerboard and coated fine paper, ownership concentration, as defined by traditional approaches to drawing segment boundaries, may be reaching levels where it would be difficult for companies to find further acquisition opportunities that could be approved by competition authorities. A grouping of companies has emerged that is not identical to but partly overlaps with the group of largest companies, and it is drawn from various geographies and market segments. Companies in this group have positioned themselves for further growth through high margins and low debt. Our analysis suggests the financial resources available to some members of this group for strategic capital expenditure (capex) could be five to ten times greater than other top players in the industry. This potentially represents a powerful force for change in the industry, and over the next few years it will be interesting to see how these companies choose to spend their resources. Some of these companies, with large war chests and sizable annual cash flow deployable for strategic capex, might even face a challenge to find opportunities on a scale that matches these resources

**WE'RE A
PASSIONATE
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WITH PASSIONATE
INDIVIDUALS**

CURRENT PERFORMANCE



At first sight the performance of the Top 100 players in the year looks disappointing, with overall sales coming in some 5% below the equivalent 2014 number. In making any comparison however, the impact of the turbulent foreign exchange markets needs to be borne in mind. With the US dollar appreciating against most other leading currencies, and the collapse in the Euro and Real, translation into US dollars has the effect of depressing the 2015 numbers. If the impact of this is put to one side, there was probably some small growth in both Europe and Canada, and somewhat stronger growth in Latin America

Emerging Asia would be seen to be broadly in line with the previous years. The remaining foreign region covered – Japan – was subjected only to minimal overall movement in its currency when measured against the dollar, and the disappointing numbers here reflect the stagnant economy of that country. The only territory not affected by translation movements into the dollar (the US) was nevertheless still affected by currency movements, in that the strengthening US dollar caused headwinds for US exporters. After taking account of the foreign currency factor the overall numbers seems growing.

CHANGING MARKET SEGMENTS

Whether companies are well positioned for further growth or still needing to earn the right to grow, they can expect demand to grow for paper and board products over the next decade. The graphic-paper market will continue to face declining demand worldwide, and our research has yet to find credible arguments for a specific floor for future demand. But this decline should be balanced by the increase in demand for packaging—industrial as well as consumer—and tissue products. All in all, demand for fiber-based products is set to increase globally, with some segments growing faster than others. The one hazy spot in demand might be concerns over how fast it will grow in China.

Expectations of growth from only a few years ago have proven a bit too optimistic, not only in graphic papers but also in tissue papers and packaging. Given China's weight in the global paper and board market, even relatively modest slowdowns can have significant impact. How these demand trends will translate into industry profitability will of course be heavily influenced by the industry's supply actions. Supply movements are notoriously difficult to forecast more than a few years out, but we believe the following observations are relevant to this discussion

CHALLENGES

- In such an environment, what are the key challenges senior executives will need to address? What are the key battles they will have to fight? The paper and forest-products industry is often labeled a “traditional” industry. Yet given the confluence of technological changes, demographic changes, and resource concerns that we anticipate over the next decade, we believe the industry will have to embrace change that is, in character, as well as pace, vastly different from what we have seen before—and anything but traditional. This will pose significant challenges for CEOs regarding how they manage their companies.
- We argue that there are three broad themes that paper and forest-products CEOs will have to address through 2020 and beyond:
 - managing short-to-medium-term “grade turbulence”
 - finding the next level of cost optimization
 - finding value-creating growth roles for forest products in a fundamentally changing business landscape

FUTURE?

UPCOMING OPPORTUNITIES FOR PAPER MANUFACTURING BUSINESS?



- Graphic papers, particularly newsprint and coated papers but also uncoated papers, will continue to face a severe decline in demand and significant pressure to restructure production capacity. We are likely to see continuing machine conversions into packaging and specialty papers, as well as more innovative structural moves that include innovations in distribution and the supply chain. Such structural changes are already having an impact, and the profitability of graphic-paper companies is currently reemerging from several years in the doldrums. The turbulence in graphic papers has meanwhile spilled over to packaging and tissue segments, with capacity increases in segments that don't really need it
- Consumer packaging and tissue will be driven largely by demographic shifts and consumer trends such as the demand for convenience and sustainability. It will grow roughly on par with GDP. We expect innovation to be a critical success factor, but we are uncertain how far packaging players can drive innovation by themselves. Clearly they can take the lead on materials development, but they may need to follow the lead of retailers and consumer-goods companies in areas such as formats, use, and technology. At the same time, the sudden inflow of capacity from the graphic-paper segment will need to be managed.

FUTURE?

UPCOMING OPPORTUNITIES FOR PAPER MANUFACTURING BUSINESS?

- Industrial packaging will also see opportunities for innovation and a certain amount of value-creating disruption, for example, in online shopping, last-mile delivery, product safety, and counterfeiting measures. But demand growth is still likely to be somewhat below GDP.
- Hardwood fiber is likely to face some challenging times near term, despite healthy demand growth. Recent and ongoing expansions are creating an oversupply that is likely to exert downward pressure on prices for a few years. Until the industry as a whole learns to adopt a more long-term view on demand cycles and capacity expansions, this cyclical performance is likely to continue.
- Softwood fiber could be looking forward to some prosperous years. In the medium term, requirements for stronger, lighter-weight packaging and the need to balance out the deteriorating quality of recycled fiber could increase demand. Although demand-growth rates are lower than for hardwood, so are the industry's capacity additions, and this should help profitability. Challenges in expanding softwood-forest supply are constraining new supply, as well as the fact that much of the industry's softwood-production assets are aging and need complete renewal or substantial upgrades. But the scale of the investments required is a potential roadblock to them being made, which could further contribute to scarcity. The lingering question is whether such supply-side challenges can trigger an accelerated development of hardwood applications as a substitute, rendering softwood fibers partly obsolete.





**"DIGITAL
REVOLUTION WILL
LEAD TO COST-
IMPROVEMENT
OPPORTUNITIES."**

Even though we see new ways of creating value in the forest-products industry, low cost is, and will remain, a critical factor for high financial performance. One of the characteristics shared by companies with high margins and high returns is that they have access to low-cost raw materials, primarily fiber. This will continue to be a high-priority area, albeit with some twists compared with today.

In recycled fiber, availability and quality—and therefore cost—will be increasingly challenged. Fresh fiber is facing other cost issues. It is unclear whether plantation land in the southern hemisphere (primarily for short-fiber wood) will continue to be available at current low prices. And as companies go to more remote areas to acquire inexpensive land, such as in Brazil, the paper and forest-products industry has much to gain from embracing digital manufacturing: according to our estimates, this could reduce the total cost base of a producer by as much as 15 percent. New applications, such as forestry monitoring using drones or remote mill automation, present tremendous opportunities for increased efficiency and cost reductions. This is also the case in areas where big data can be applied, for instance, to solve variability and throughput-related issues in each step of the integrated production flow. The industry is well placed to join the digital revolution, as paper and pulp producers typically start from a strong position in regard to collected or collectable data.

About Arrelic

Arrelic is a fast-growing deep-tech firm aiming to bring the next level of IoT based sensor technology to transform the mode of manufacturing operation and maintenance practice of various industries with extensive expertise in Reliability Engineering, Predictive Maintenance, Industrial Internet of Things (IIoT) Sensors, Machine Learning and Artificial Intelligence. We provide a single ecosystem for catering all industry needs from Consulting to IoT and Analytics as well as providing Training and Development courses for different stakeholders. We aim to help manufacturing industries to improve their overall plant productivity, reliability and minimize total production cost by 25-30% by eliminating machine downtime, lightening management decisions by analysing the machine data with right mind and expertise; for a worry free operation



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