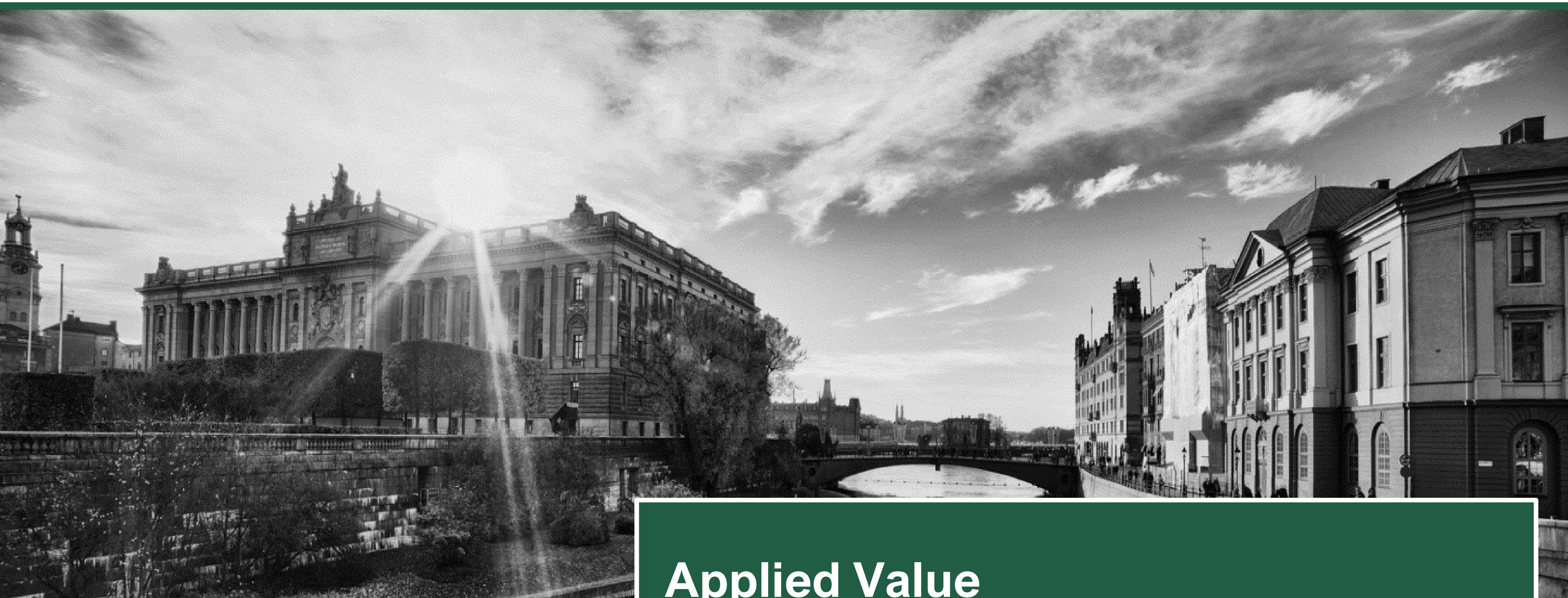

Applied Value
Pulp & Paper Report

Quarterly Analysis Q2, 2019

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Applied Value Pulp & Paper Report

Selected Companies showed varying performances in Q2 2019; the industry declined -0.4 % Q-o-Q as the market environment remains uncertain

Financial Benchmarking: Highlights in Q2 2019

Key Takeaways

Revenue Growth	› Industry sales decreased 0.4% in Q2 '19 compared to the previous quarter, with players mainly impacted by altering price realizations, fluctuating sales volumes and FX rate movements affecting performances. Pulp prices also continued to decline which limits growth rate and Gross Margin › Europe, North America and Latin America reported a Y-o-Y revenue growth of +5.2%, -1.3% and +16.3%, respectively. In Europe, growth benefited from a positive exchange rate development which boosted export volumes and top line. In North America, the closure of paper mills (Verso, Resolute), and lower shipping volumes from a more expensive USD explained the negative growth › Essity reported the highest Q-o-Q growth of +4.6%. Ahlstrom-Munksjö reported the highest Y-o-Y revenue growth of +26.8% driven by the completion of two major acquisitions in late 2018 – Caieira and Expera
Profitability & Costs	› European Average Raw Materials over Sales turnout was 53.4% in Q2 '19 and has slightly increased three quarters in a row › American Average COGS over Sales turnout was 79.9% in Q2 '19 and has continued to increase three quarters in a row › European Average Employee Costs over Sales decreased slightly over the past quarter by 0.1p.p. to 14.5%. North American companies remain best in class at 7.9% SG&A costs over sales, followed by Latin America at 11.4% SG&A costs over sales › Industry average EBITDA Margin decreased 1.6p.p. Q-o-Q and 0.9p.p. Y-o-Y in Q2 '19, landing on 17.5%, partially due to decreasing prices and lower delivery volumes
Return On Invested Capital (ROIC)	› The average industry ROIC performance further decreased in all regions by 1.4p.p. Y-o-Y to 8.7%. The LTM vs. LTM -1 ROIC declined 0.9p.p. to 9.3% › Europe has the highest regional average ROIC in LTM at 10.7% with Metsä Board (17.0%), Södra (16.3%) and UPM (15.0%) as top performers › 7 out of 9 American companies had a negative ROIC development in LTM, affected by decreasing margins due to negative price and exchange rate development

Top Performers

AHLSTROM MUNKSJÖ

essity

suzano

SCA

PCA PACKAGING CORPORATION OF AMERICA

MetsäBoard

SÖDRA

Source: RISI, Interim & Annual Results.

Q2 2019 was characterized by decreasing pulp prices across all regions, increasing tariffs in China on US companies, and organic growth focus

Market Trends: Highlights in Q2 2019

Key Takeaways

Industry News	› The overall market environment remains uncertain and demand continues to fluctuate › Uncertainties in the global economy increased towards the end of the year and is still pending. The US/China trade tension had a continued impact on demand as China tariffs on US goods includes almost 100 kinds of Pulp & Paper products › The second half of Q2 showed a trend of investments in own production mills and product innovations from several players › Due to high dependence on raw material prices, Q2 also saw significant investments and divestments in forestry from players
Pulp Prices	› Pulp prices decreased in all regions in Q2. Prices in Northern Europe and US East Spot prices continued to decrease and are back at similar levels as 24 months ago (approx. 820 USD/Ton and 570 USD/Ton respectively) › Wood product prices under pressure affected by high production rate at sawmills in central Europe › Log price declined partly due to mandatory felling to combat spruce bark beetle infestation in Sweden
Graphic Paper & Packaging	› Graphic paper's price development declined in Q2 '19 after a two-year period of growth › Packaging prices also declined in Q2 '19
Commodities & Currencies	› Q2 Oil prices peaked at 65 USD/barrel in April and has experienced a steady price decline since (58 USD/ barrel end of June) › The U.S. dollar has strengthened during LTM compared to SEK (-5.3p.p.), EUR (-2.5p.p.), CNY (-3.7p.p.) and depreciated against JPY (+2.7pp.) › After significant electricity price increase in Q3 '18, prices have dropped and are back at LTM-1 levels, with Germany and Europe around 25-35 EUR/MWh and US at 6.5 Cents/KWh

Note: WTI Spot Crude Oil prices are per 30 Jun 2019.
Source: RISI, Interim & Annual Results.

Applied Value's quarterly Pulp & Paper Report is focused on financial benchmarking and market trends affecting the industry

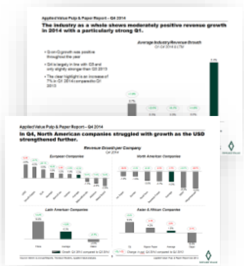
In this Pulp & Paper Report, Applied Value provides essential financial benchmarking focused on the latest quarter and 12-month period, while also offering a brief update on the latest market trends.

The report provides a clear, understandable and useful analysis of the relative performance of a selection of global Pulp & Paper companies. Moreover, it provides an overview of the industry and relevant market trends that occurred during the quarter.

Growth

Industry growth latest 4 quarters and LTM

Growth in the latest quarter per company and region



EBITDA Margins

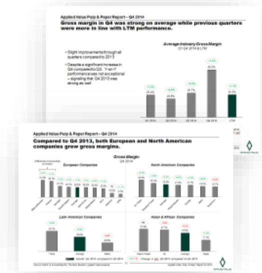
Average Industry EBITDA margin latest 4 quarters and LTM

EBITDA margin for the latest quarter per company and region

ROIC

ROIC per region for the latest two 12-month periods

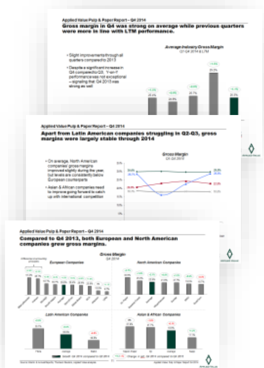
ROIC development per company and region for LTM



Operational Costs Breakdown

Operational Costs Breakdown latest quarter per company and region

Operational Costs development Y-o-Y per company and region



APPLIED VALUE

Market Trends

Pulp & Papers market price movements

Commodity prices and currency movements

The report is based on the financial performance of 21 leading Pulp & Paper companies

Companies included in Financial Benchmarking in the Q2 2019 report

Market	Company	Revenue LTM (MEUR)	Country	Packaging	Paper	Newsprint	Sanitary	Other
European Companies								
	Essity	11,495	SE				✓	
	UPM	10,679	FI		✓	✓		✓
	Stora Enso	10,523	FI	✓	✓	✓		✓
	Mondi	7,525	UK	✓	✓			
	Ahlstrom-Munksjö	2,784	FI	✓	✓			✓
	BillerudKorsnäs	2,308	SE	✓	✓			✓
	Södra	2,272	SE					✓
	Metsä Board	1,897	FI	✓	✓			✓
	SCA	1,861	SE	✓	✓			✓
	Holmen	1,559	SE	✓	✓	✓		✓
North American Companies								
	International Paper	20,867	US	✓	✓	✓		✓
	WestRock	16,103	US	✓	✓			✓
	Packaging Corp. of America	6,351	US	✓	✓			✓
	Graphic Packaging	5,492	US	✓				✓
	Domtar	4,910	CA	✓	✓	✓	✓	
	Sonoco	4,894	US	✓	✓			✓
	Resolute Forest	3,114	CA		✓	✓	✓	✓
	Cascades	3,314	CA	✓			✓	
	Verso Corporation	2,287	US	✓	✓	✓		✓
Latin American Companies								
	Suzano	3,314	BR		✓		✓	✓
	Klabin	2,318	BR	✓	✓			✓

Applied Value Pulp & Paper Report

Executive Summary & Introduction

Financial Benchmarking

Market Trends

Applied Value Presentation

Selected Companies showed varying performances in Q2 2019; the industry declined -0.4 % Q-o-Q as the market environment remains uncertain

Financial Benchmarking: Highlights in Q2 2019

Key Takeaways

Revenue Growth

- Industry sales decreased 0.4% in Q2 ‘19 compared to the previous quarter, with players mainly impacted by altering price realizations, fluctuating sales volumes and FX rate movements affecting performances. Pulp prices also continued to decline which limits growth rate and Gross Margin
- Europe, North America and Latin America reported a Y-o-Y revenue growth of +5.2%, -1.3% and +16.3%, respectively. In Europe, growth benefited from a positive exchange rate development which boosted export volumes and top line. In North America, the closure of paper mills (Verso, Resolute), and lower shipping volumes from a more expensive USD explained the negative growth
- Essity reported the highest Q-o-Q growth of +4.6%. Ahlstrom-Munksjö reported the highest Y-o-Y revenue growth of +26.8% driven by the completion of two major acquisitions in late 2018 – Caieira and Expera

Profitability & Costs

- European Average Raw Materials over Sales turnout was 53.4% in Q2 ’19 and has slightly increased three quarters in a row
- American Average COGS over Sales turnout was 79.9% in Q2 ’19 and has continued to increase three quarters in a row
- European Average Employee Costs over Sales decreased slightly over the past quarter by 0.1p.p. to 14.5%. North American companies remain best in class at 7.9% SG&A costs over sales, followed by Latin America at 11.4% SG&A costs over sales
- Industry average EBITDA Margin decreased 1.6p.p. Q-o-Q and 0.9p.p. Y-o-Y in Q2 ’19, landing on 17.5%, partially due to decreasing prices and lower delivery volumes

Return On Invested Capital (ROIC)

- The average industry ROIC performance further decreased in all regions by 1.4p.p. Y-o-Y to 8.7%. The LTM vs. LTM -1 ROIC declined 0.9p.p. to 9.3%
- Europe has the highest regional average ROIC in LTM at 10.7% with Metsä Board (17.0%), Södra (16.3%) and UPM (15.0%) as top performers
- 7 out of 9 American companies had a negative ROIC development in LTM, affected by decreasing margins due to negative price and exchange rate development

Top Performers

Ahlstrom Munksjö, Essity, Suzano

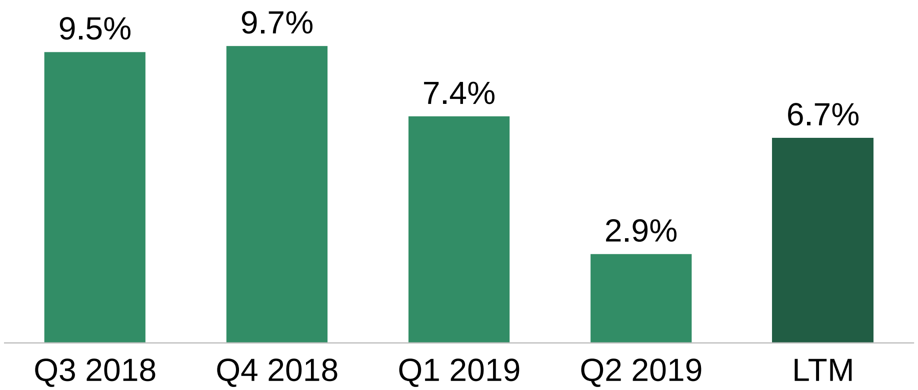
SCA, PCA (Packaging Corporation of America)

Metsä Board, Södra

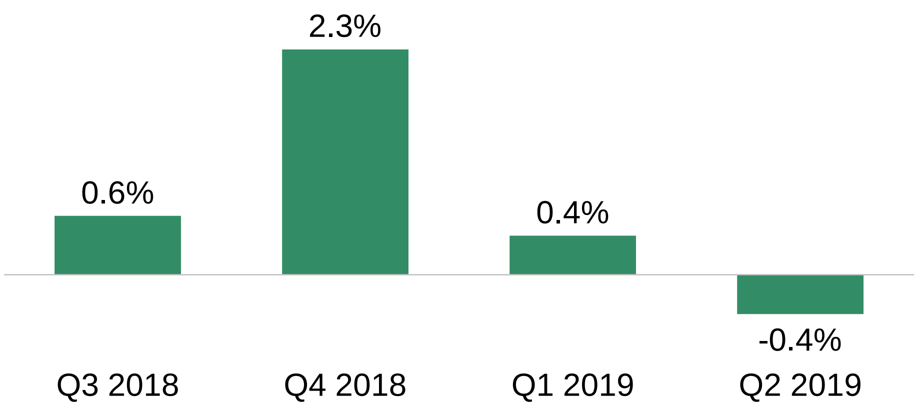
Source: RISI, Interim & Annual Results.

Previous high growth has slowed down, affected by a fluctuating market demand

Average Industry Revenue Growth, Y-o-Y
Q3 2018 – Q2 2019 & LTM



Average Industry Revenue Growth, Q-o-Q
Q3 2018 – Q2 2019



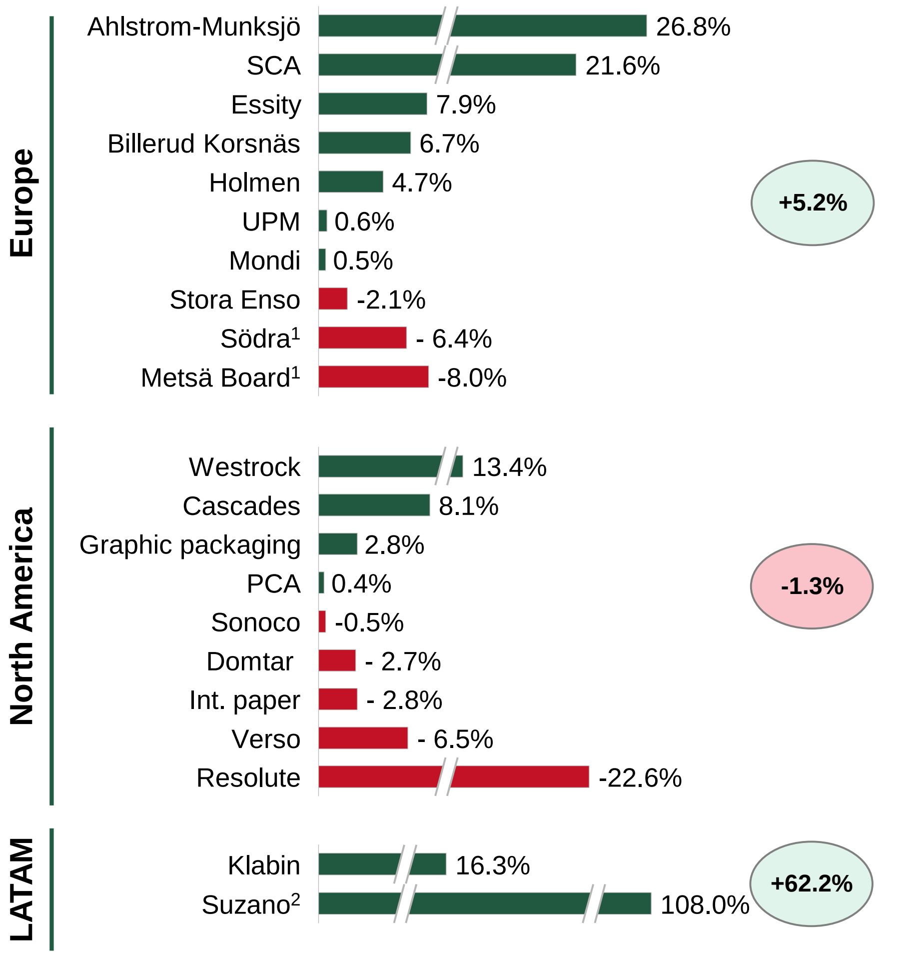
Comments on Revenue Growth

- As the overall market environment remains uncertain and demand continues to fluctuate, the industry experienced a decrease in growth in Q2 of -0.4% Q-o-Q
- The average Revenue Growth of 6.7% in LTM was fueled by acquisitions, several production mill expansions and prices that have stabilized at high levels
- Europe reported a Y-o-Y revenue growth of +5.2%, benefited from a positive exchange rate development
- North America had a negative growth driven by a more expensive USD as well as, closure and divestments of several production facilities (Verso and Resolute)

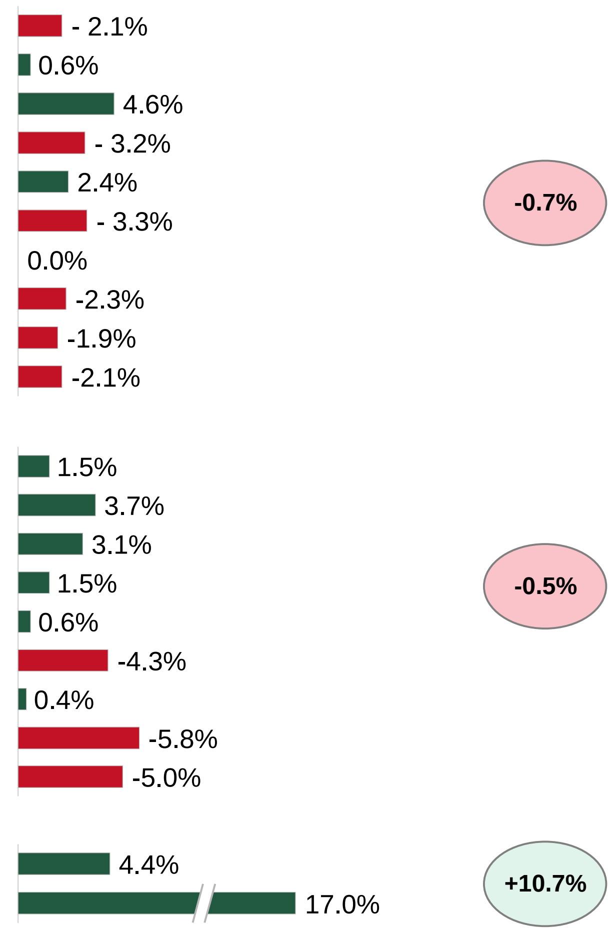
Source: Interim & Annual Reports, Capital IQ, Applied Value analysis.

Q2 Top Performers see revenue growth from previous acquisitions and own production mill ramp ups

Revenue Growth Y-o-Y,
Q2 2019



Revenue Growth Q-o-Q,
Q2 2019

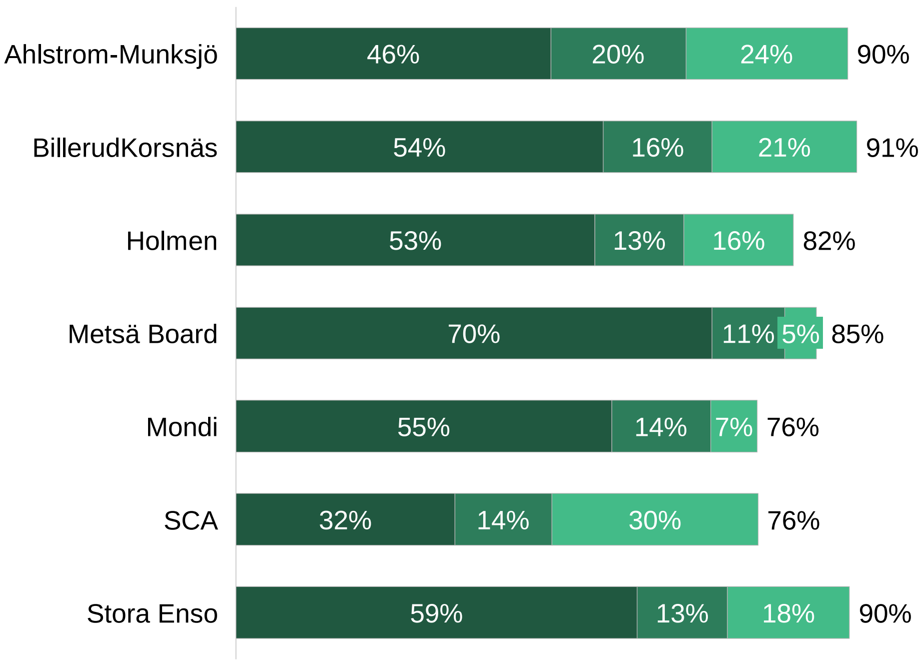


Note: 1) Growth affected by mill maintenance 2) Suzano's numbers incomparable due to merge with Fibria
Source: Interim & Annual Reports, Capital IQ, Applied Value analysis.

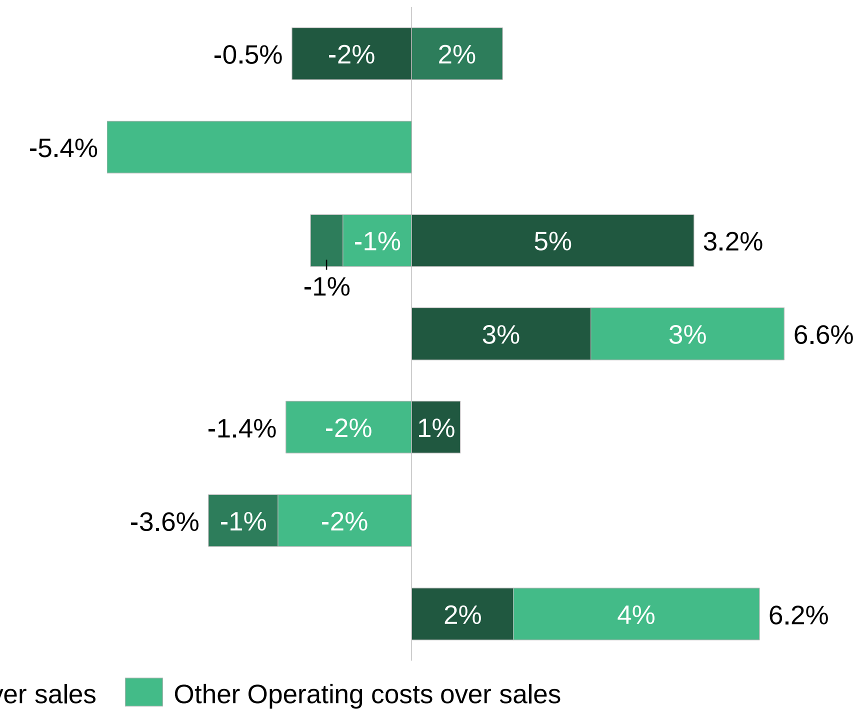
= Positive growth
= Negative growth
Average

Operational Costs Breakdown: European Companies

Operational Costs Breakdown
Q2 2019



Change in Operational Costs, Y-o-Y,
Q2 2019

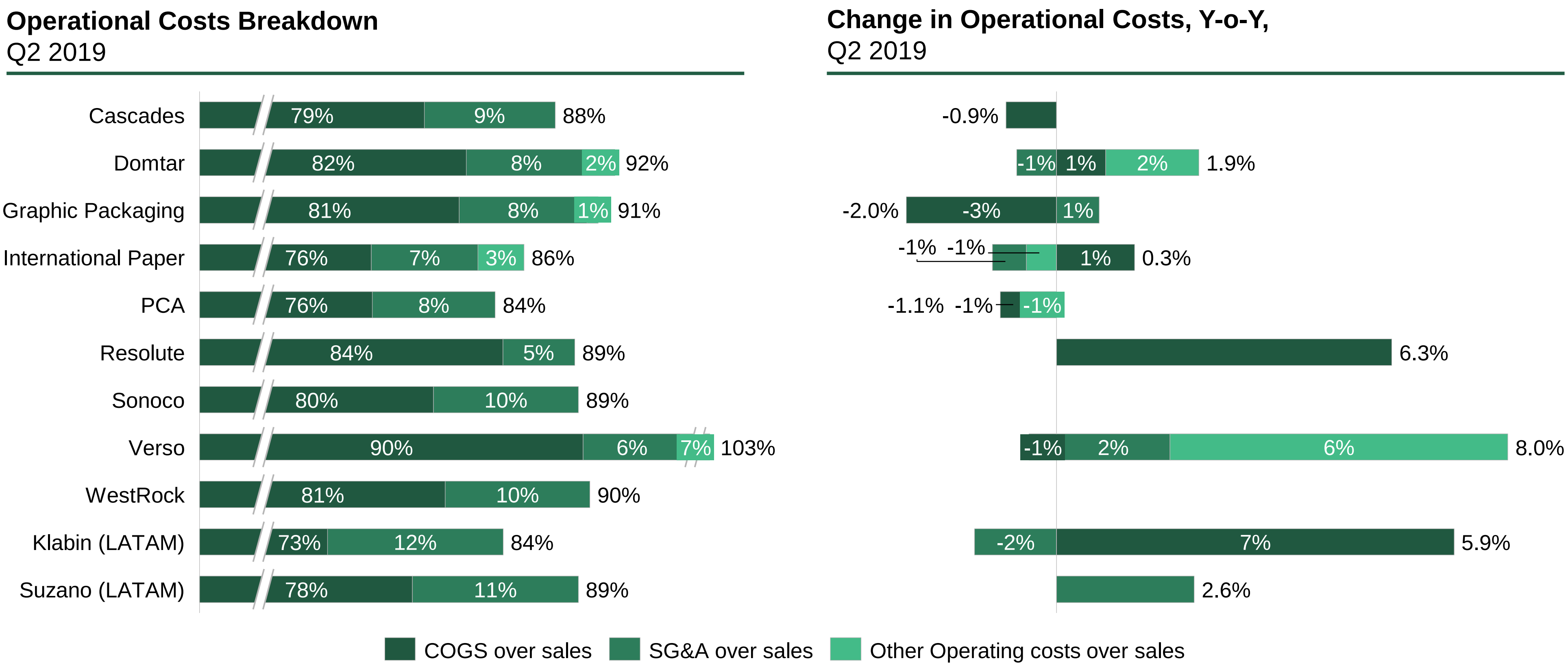


Comments on Operational Costs

- European Average Raw Material costs over sales has seen an increase every quarter the past year, rising 1.3p.p. Y-o-Y to 53%
- Europe had a slight improvement in Employee costs over sales in Q2, -0.1p.p. Y-o-Y

Note: Only companies reporting RAW or similar are included.
Source: Interim & Annual Reports, Capital IQ, Applied Value analysis.

Operational Costs Breakdown: North and South America



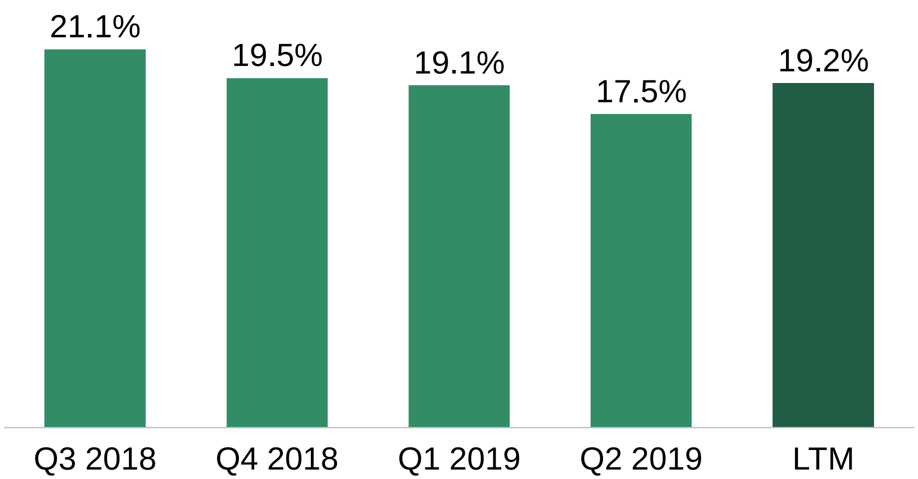
Comments on Operational Costs

- Americas' Average COGS over Sales has seen a steady increase every quarter for the past year, +1.1p.p. Y-o-Y in Q2 as a result of lower business optimism Y-o-Y in North America
- North America, having the best in class SG&A over sales, had mixed performances but showed an average increase in costs by 0.3p.p. Y-o-Y
- In Latin America, Suzano's SG&A costs decreased 2.6p.p. Y-o-Y, suggesting the company is starting to see synergy effects from its acquisition of Fibria

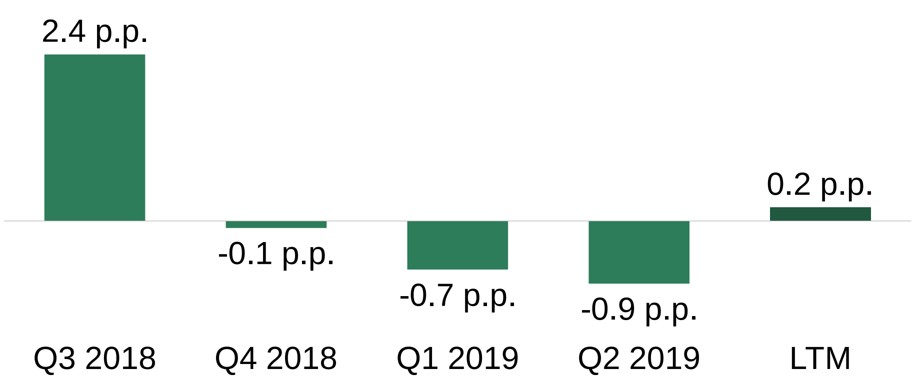
Note: Only companies reporting COGS or similar are included. Suzano's numbers incomparable due to acquisition of Fibria
Source: Interim & Annual Reports, Capital IQ, Applied Value analysis.

Negative trend on Average EBITDA Margin, as a result of falling prices and decrease in demand

Average Industry EBITDA Margin
Q3 2018 – Q2 2019 & LTM



Change of Average Industry EBITDA Margin, Y-o-Y
Q3 2018 – Q2 2019 & LTM



Comments on EBITDA Margin

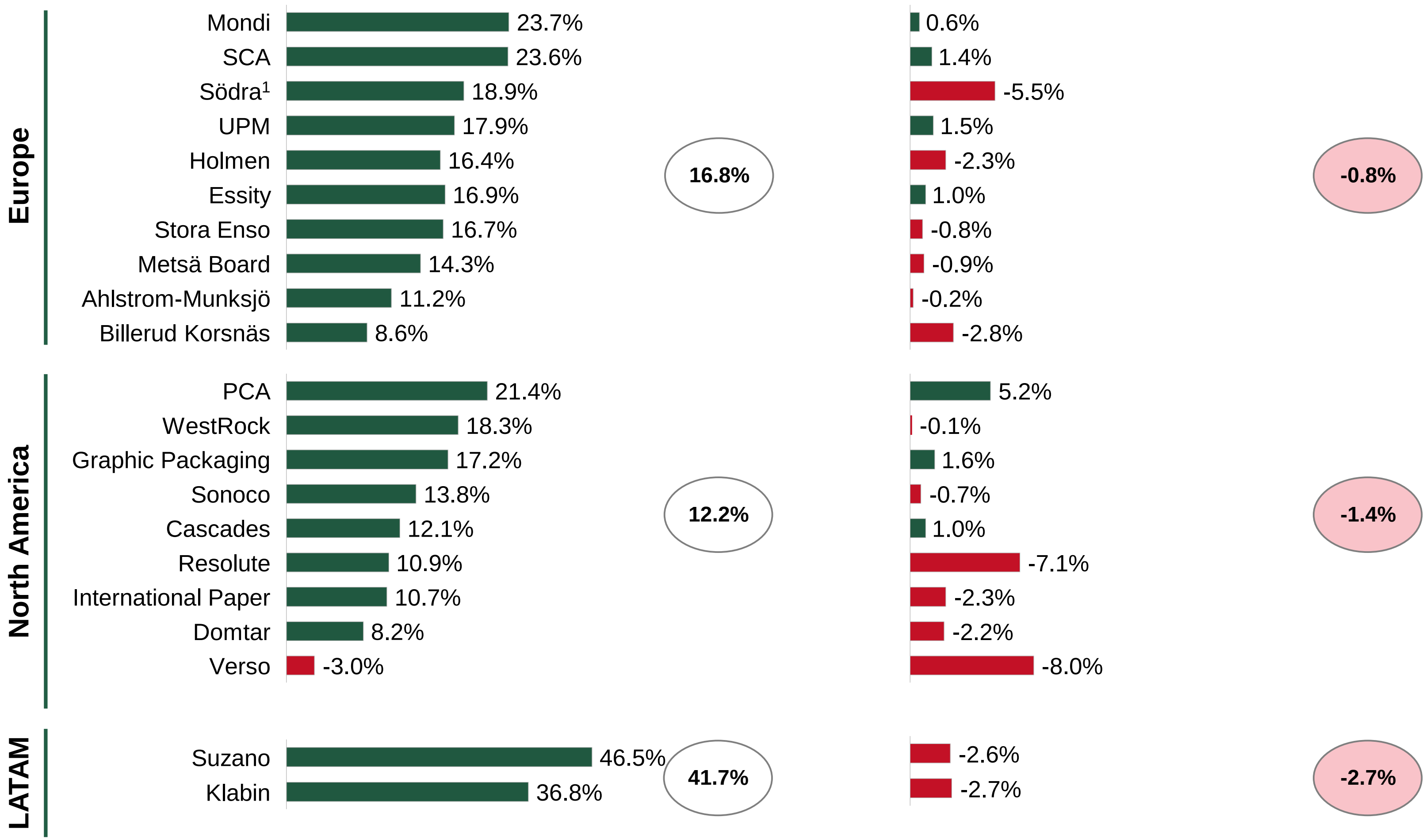
- EBITDA Margin in LTM was fueled by strong demand and high price levels across the industry, improved 0.2p.p. compared to previous twelve months
- However, as prices has started to decrease, EBITDA Margin decreased 1.2p.p. Y-o-Y in Q2 '19
- More than 50% of analyzed companies reported negative Y-o-Y profitability development
  - European companies' EBITDA Margin decreased slightly in Q2 by 0.8p.p. Y-o-Y
  - North American companies experienced an EBITDA Margin decline in Q2 of 0.7p.p. Y-o-Y
  - Latin America accounts for the largest decrease (-2.7p.p.) compared to Q1 but is still outperforming peers at an average EBITDA margin of 42%

Note: EBITDA adjusted for unusual items (if reported). Differences in accounting principles can affect comparability.
Source: Interim & Annual Reports, Capital IQ, Applied Value analysis.

All regions experienced a negative EBITDA margin development in Q2 ’19, Y-o-Y (-0,9%)

EBITDA Margin,
Q2 2019

Change of EBITDA Margin Y-o-Y,
Q2 2019

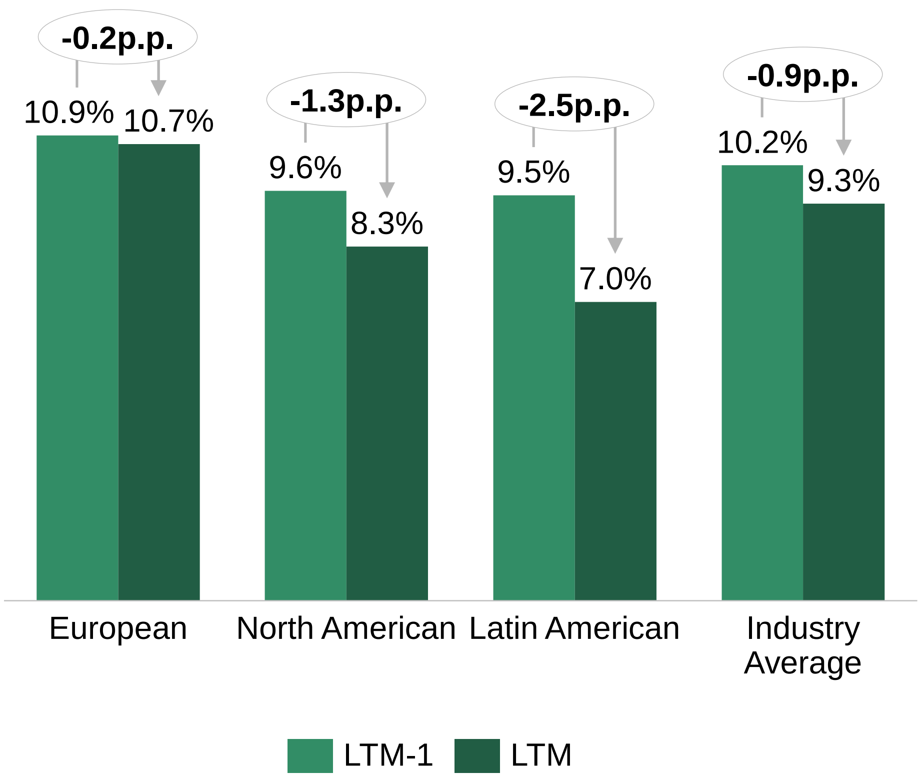


Note: EBITDA adjusted for unusual items (if reported). Differences in accounting principles can affect comparability.
1) Margin affected by mill maintenance
Source: Interim & Annual Reports, Capital IQ, Applied Value analysis.

= Positive development
= Negative development

LTM decrease of -0.9p.p. in average Industry ROIC performance, driven by negative development in North America and LATAM

Average Industry Return On Invested Capital,
LTM-1 & LTM



Comments on ROIC

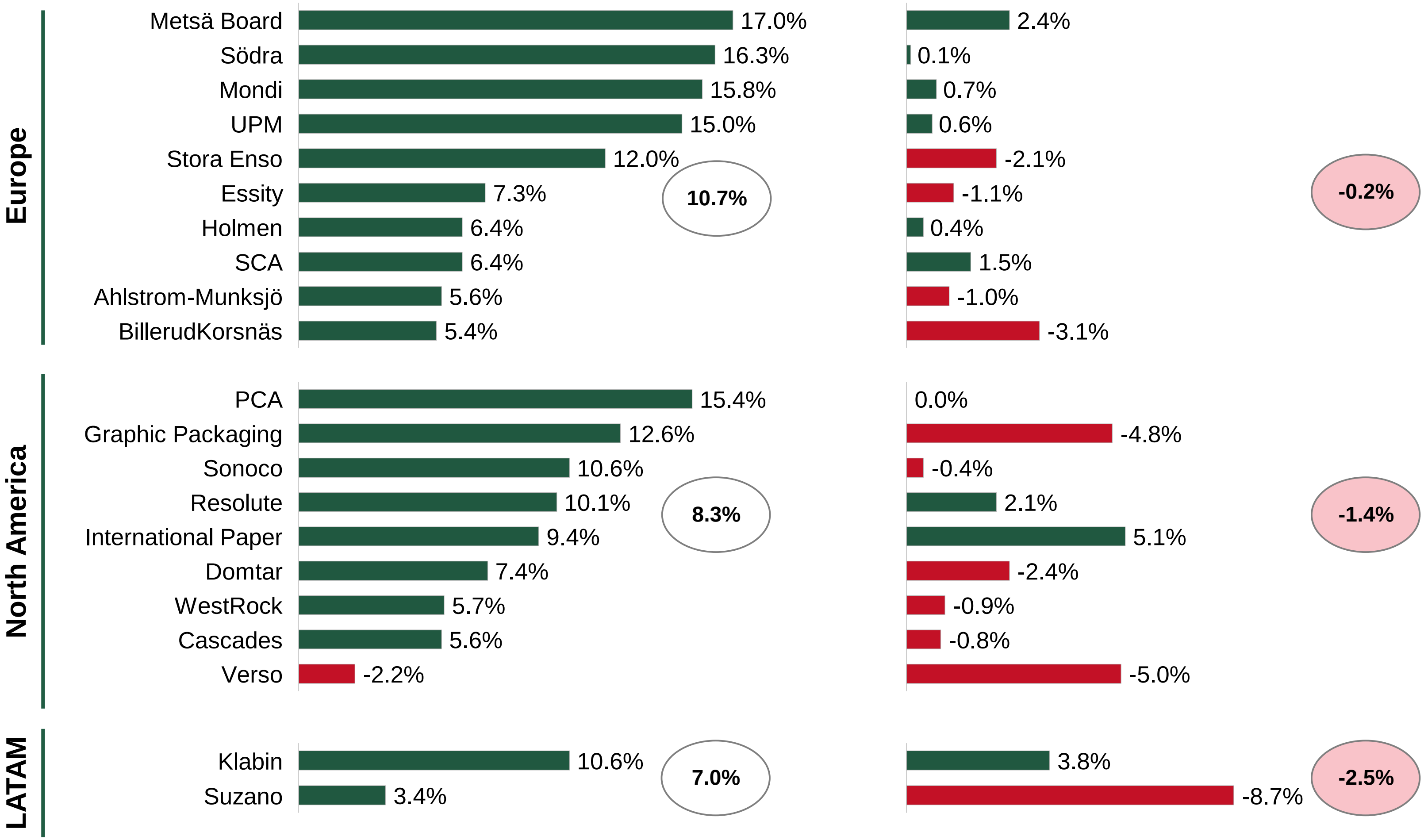
- The global average ROIC decreased by 0.9p.p. in LTM compared to the previous twelve months
- European companies reported flat ROIC development in LTM, Metsä Board top performer at 17.0%
- North American companies reported an average decrease of 1.3p.p. in LTM, where PCA is top performer at 15.4%
  - 7 out of 9 companies had a negative ROIC development the last year, affected by negative price and exchange rate development
- LATAM negative development was affected by Suzano's acquisition of Fibria

Note: Differences in accounting principles can affect comparability
Source: Interim & Annual Reports, Capital IQ, Applied Value analysis.

Europe is showing the highest regional average ROIC of 10.7% in LTM

ROIC,
LTM

Change in ROIC,
LTM vs. LTM-1



Note: LTM -1: Q3 2017 – Q2 2018, LTM: Q3 2018 – Q2 2019.
Source: Interim & Annual Reports, Capital IQ, Applied Value analysis.

= Positive development
= Negative development
Average

Applied Value Pulp & Paper Report

Q2 2019 was characterized by decreasing pulp prices across all regions, increasing tariffs in China on US companies, and organic growth focus

Market Trends: Highlights in Q2 2019

Key Takeaways

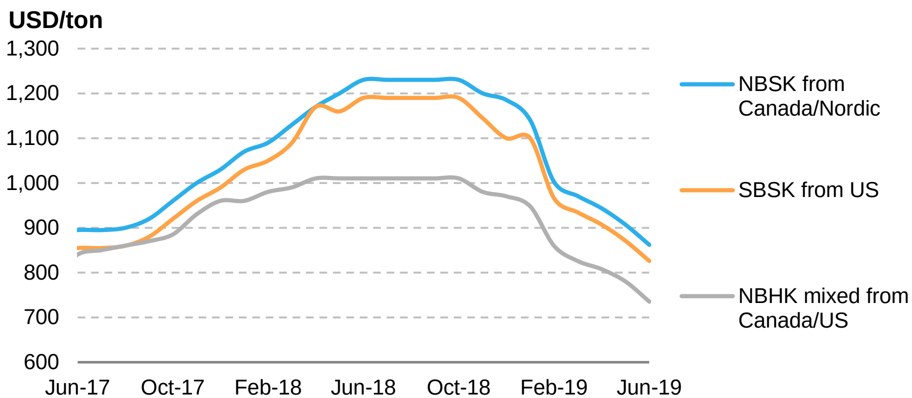
Industry News	› The overall market environment remains uncertain and demand continues to fluctuate › Uncertainties in the global economy increased towards the end of the year and is still pending. The US/China trade tension had a continued impact on demand as China tariffs on US goods includes almost 100 kinds of Pulp & Paper products › The second half of Q2 showed a trend of investments in own production mills and product innovations from several players › Due to high dependence on raw material prices, Q2 also saw significant investments and divestments in forestry from players
Pulp Prices	› Pulp prices decreased in all regions in Q2. Prices in Northern Europe and US East Spot prices continued to decrease and are back at similar levels as 24 months ago (approx. 820 USD/Ton and 570 USD/Ton respectively) › Wood product prices under pressure affected by high production rate at sawmills in central Europe › Log price declined partly due to mandatory felling to combat spruce bark beetle infestation in Sweden
Graphic Paper & Packaging	› Graphic paper's price development declined in Q2 '19 after a two-year period of growth › Packaging prices also declined in Q2 '19
Commodities & Currencies	› Q2 Oil prices peaked at 65 USD/barrel in April and has experienced a steady price decline since (58 USD/ barrel end of June) › The U.S. dollar has strengthened during LTM compared to SEK (-5.3p.p.), EUR (-2.5p.p.), CNY (-3.7p.p.) and depreciated against JPY (+2.7pp.) › After significant electricity price increase in Q3 '18, prices have dropped and are back at LTM-1 levels, with Germany and Europe around 25-35 EUR/MWh and US at 6.5 Cents/KWh

Note: WTI Spot Crude Oil prices are per 30 Jun 2019.
Source: RISI, Interim & Annual Results.

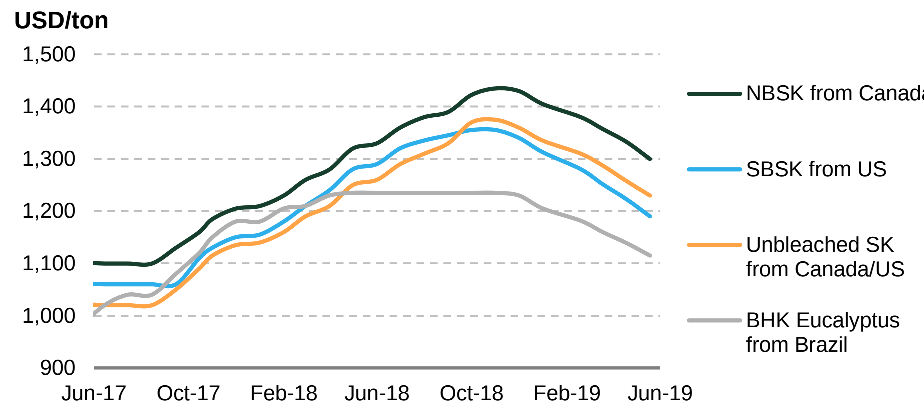
Global pulp prices continue to decrease across all regions after peaking in the end of 2018

Global Pulp Price Development, Last 24 Months

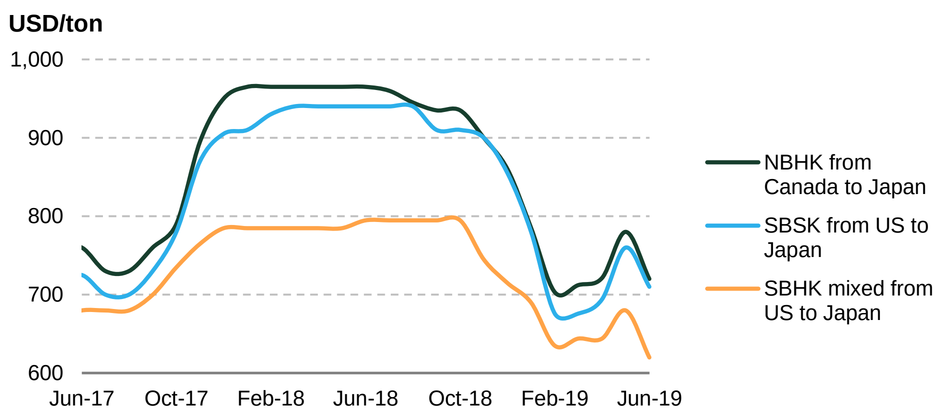
Northern Europe



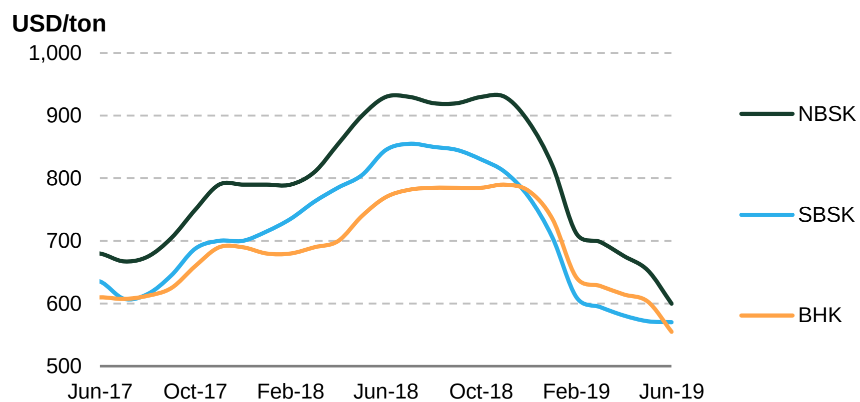
US East



Asia



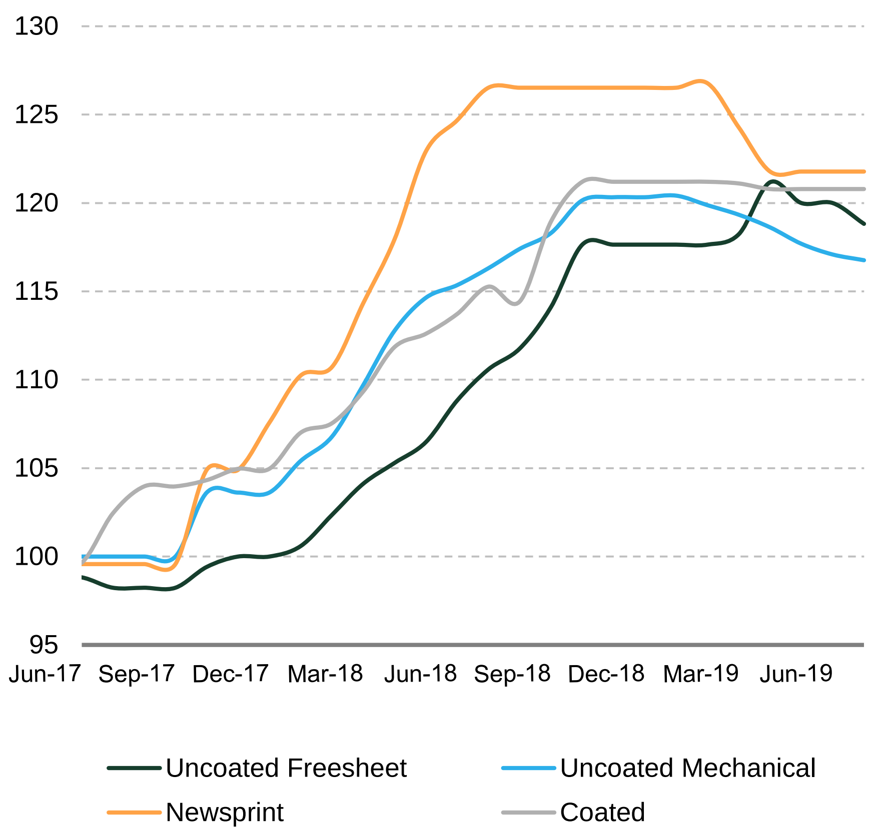
US East Spot Prices



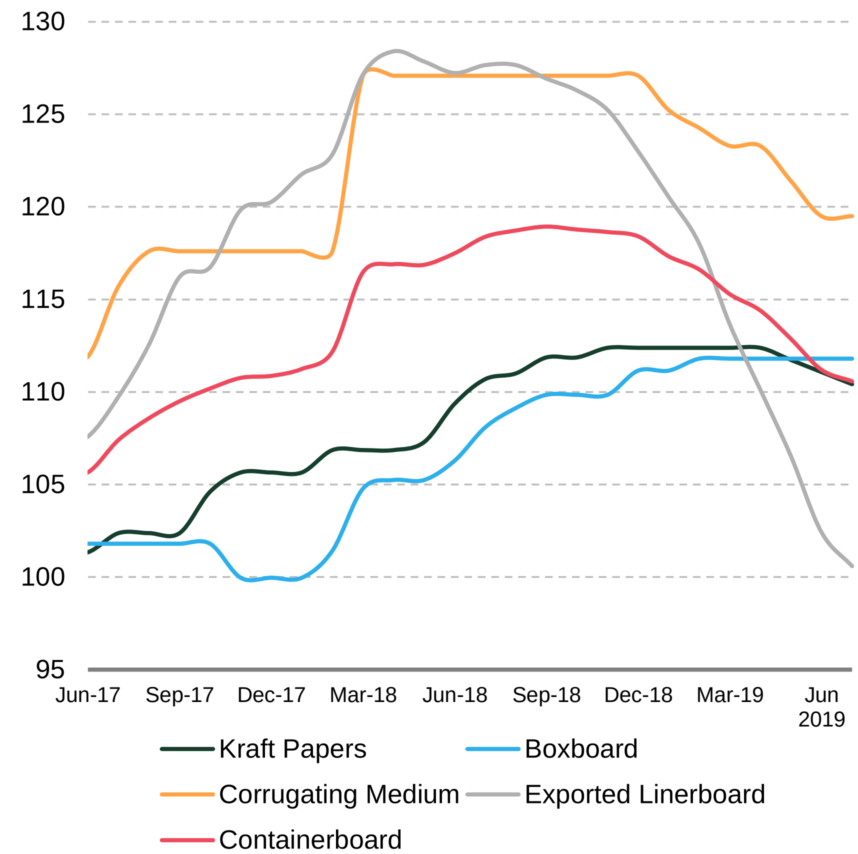
Note: Midpoint price levels.
Source: RISI PPI Pulp & Paper Week.

Graphic Paper prices started to fall in Q2 from previous two years of price increase and Packaging prices continued its negative trend since Sep '18

Graphic Paper Prices
Average Indexed Price per Product Segment



Packaging Prices
Average Indexed Price per Product Segment



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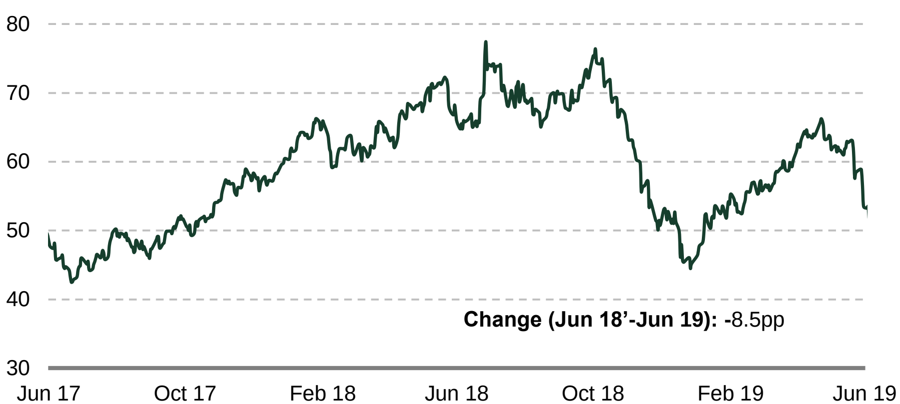
Source: RISI PPI Pulp & Paper Week.

The USD has continued to appreciate against the EUR, GBP, CNY and SEK, stimulating European and restraining US exports, while energy prices fell

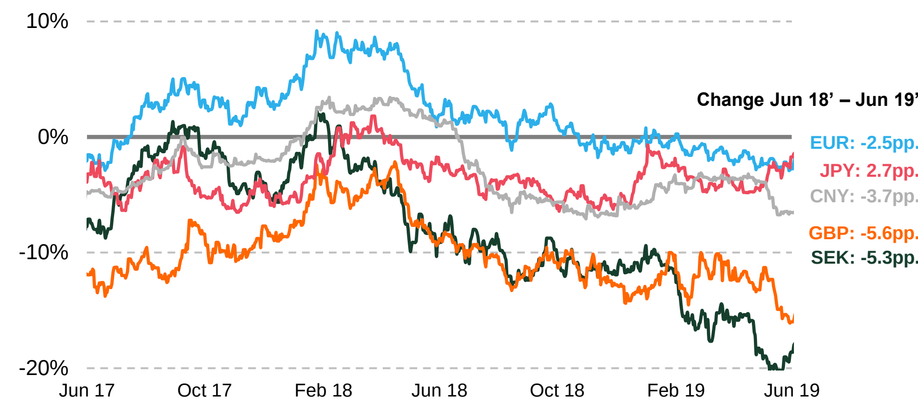
Commodity & Currency Price Development, Last 24 months

WTI Spot Crude Oil, USD/Barrel



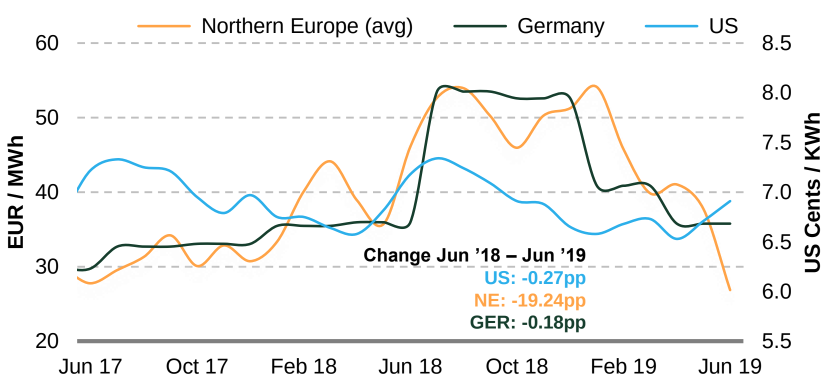
Source: US Energy Information Administration.

Currency appreciation against USD



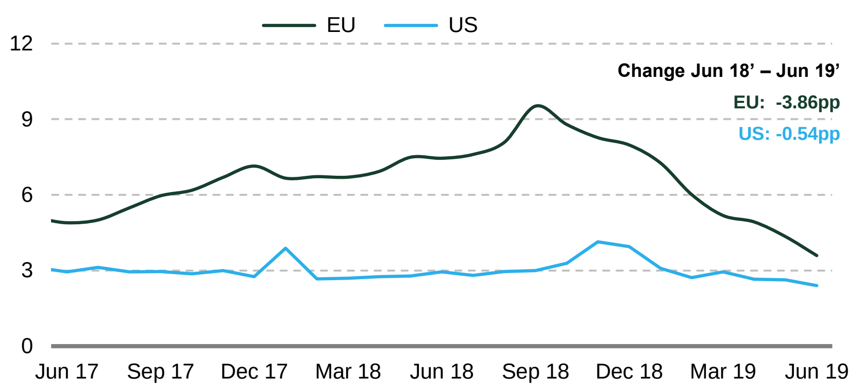
Source: S&P Capital IQ.

Electricity



Source: US Energy Information Administration (Industry retail price), Nordpool, EEX (EGIX Germany).

Natural Gas, USD/mmbtu



Source: NYMEX (Natural Gas spot price at the Henry Hub terminal in Louisiana), World Bank (EU average import border price).

Applied Value Pulp & Paper Report

Applied Value is a management consulting & investment firm founded on the principles of lean growth and entrepreneurship

1997

Background as an internal change agent in the **Kinnevik Group**…

KINNEVIK

…today, a hands-on consultancy supporting clients **across industries**

2019

Industries of Expertise

- Telecom & Media
- Chemicals & Process
- Industrials & Engineering
- Consumer Goods
- Automotive

Lean Growth Principles

Investments

Management Consulting

Social Responsibility

Selected portfolio companies

HUMAN CARE, COSMOSID, rivermeadow, Bake My Day, Division 5 Inc, Söderfors Steel, flexenclosure

APPLIED VALUE

HAND IN HAND, Straight Ahead Ministries, Exodus

ROI driven

Fact-based

Practical over theoretical

Hands-On

Global perspectives

Applied Value challenges and supports repeat global clients across industries from three offices

Selected Clients

GM
AHLSTROM MUNKSJÖ
ERICSSON
SCA
f
Epiroc
Whirlpool
BILLERUDKORSNÄS
BlackBerry
SONY
BMW
FRESENIUS MEDICAL CARE
telenor
B/S/H/
DAIMLER
Vestas
FCA FIAT CHRYSLER AUTOMOBILES
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Our Lean Growth framework is based on Focus, Simplicity, Speed – guiding principles to raise client performance

Lean Growth

Focus
- ✓ Define strategic focus
- ✓ Excel in key capabilities
- ✓ Use partners for non-core activities

Simplicity
- ✓ Reduce complexity
- ✓ Simplify and standardize processes, organization and supply chain

Speed
- ✓ Set targets
- ✓ Measure and improve
- ✓ Reduce Time to Market-Customer-Cash

Offerings

Go-to-Market
Segmentation, Positioning, Product/Channel Mix

Gross Margin Improvement
Pricing, Sourcing, VA/VE, Supply Chain, Operations

OPEX Efficiency
Operational efficiency, S&M / G&A productivity, Organization

Capital Efficiency
Working Capital mgmt., Innovation/R&D performance, M&A, Fixed asset leverage

Digital Transformation and Efficiency
Strategy, Capability improvement, Execution

Pulp & Paper is one of our three main client industries

Industry	Examples of Applied Value Engagements		Client results
Pulp & Paper	› Turnkey engagement to improve margins and capital turnover over a five-year period › Engagements included: staff optimization, product mixture optimization, capital rationalization, sourcing, and other key areas		› EBIT improved from 4% to 20% over a 4-year period › Capital Turnover Ratio was improved from 0.55 to 0.9
Telecom	› More than 200 engagements carried out in close collaboration with clients for over 10+ years › Acted as key advisor in major turnaround › Prime focus on organizational and sourcing efficiency in an industry with continuous cost pressure		› Operating expenses cut by more than 60% during turnaround › Clients have consistently outperformed industry
Automotive	› Consecutive work for 10+ years within Sourcing across multiple commodities, including more than 200 fact-based negotiations supported for 50+ commodities › Hands on strategy and implementation support of steel purchasing for 8+ years		› Continuous return of 8-12 times fee to client › Clients have consistently managed to buy steel below market prices

Our Pulp & Paper practice has been serving world leading organizations since our founding

Overview of Applied Value's Pulp & Paper Experience

Applied Value has continuously advised global market leaders in the Pulp & Paper industry:

- Key advisor to top executives during several successful turnarounds using our lean growth framework
- Improving business performance of Pulp & Paper and Chemicals companies, as well as equipment & services providers

We have conducted 50+ engagements improving Cost & Capital efficiency and Revenue Growth for our Pulp & Paper clients:

- EBIT improvement program from 4% to 20% over a 4-year period for an Integrated Pulp & Paper Company
- Sourcing Improvement Program covering Services / Chemicals / Logistics / MRO for a Global Packaging Company
- External Distribution System Optimization for European Manufacturer of Liquid Paperboard and Sack Paper
- Product Strategy for an Integrated Pulp & Paper Company
- Operations Improvement Program to improve Unit Output and Labor Efficiency for an Integrated Pulp & Paper Company
- SG&A efficiency for an Integrated Pulp & Paper Company

We are known for **creating immediate impact** and **driving change** for our clients

Applied Value has strong expertise in several areas relevant for driving improvements in the Pulp & Paper industry

Applied Value's Pulp & Paper Expertise

Applied Value Expertise	Improvement Levers	Typical Results
Commercial Excellence	› Product and customer focus › Pricing › Sales process and organization › People, culture, and incentives	› 20-30% reduction of SG&A costs › Improved customer and product profitability › Top line growth
Process Speed	› Complexity reduction › Change of policies › Elimination of low-value add activities › Streamline Ways-of-Working	› "Order-to-Cash" lead time reductions of 20-40%
Mill Efficiency	› Operational benchmarking › Maintenance efficiency › Operator and production overhead efficiency › OEE improvements	› 5-30% cost reduction, depending on category
Sourcing Excellence	› Commercial strategy › Value Analysis / Value Engineering › Consumption strategy	› 4-12% reduction of COGS in long-term Sourcing Programs › 15-25% reduction of spend in selected categories (mainly indirect material)

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