

SCHWEITZER MAUDUIT INTERNATIONAL INC
Form 10-K
March 01, 2019
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

1-13948

(Commission file number)

SCHWEITZER-MAUDUIT INTERNATIONAL, INC.

(Exact name of registrant as specified in its charter)

Delaware

62-1612879

(State or other jurisdiction of incorporation or organization) (I.R.S. Employer Identification No.)

100 North Point Center East, Suite 600

30022

Alpharetta, Georgia

(Address of principal executive offices)

(Zip Code)

1-800-514-0186

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class Name of each exchange on which registered

Common stock, par value \$0.10 per share New York Stock Exchange

Securities Registered Pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the

Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer,"

"accelerated filer", "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange

Act. (Check one):

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Large accelerated filer	Accelerated filer	Non-accelerated filer	Smaller reporting company	Emerging growth company
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the outstanding common stock, par value \$0.10 per share (the "Common Stock"), of the registrant held by non-affiliates as of June 30, 2018 (the last business day of the registrant's most recently completed second fiscal quarter) was \$1.3 billion, based on the last sale price for the Common Stock of \$43.72 per share as reported on the New York Stock Exchange on said date. For purposes of the foregoing sentence only, all directors and executive officers are assumed to be affiliates.

There were 30,896,979 shares of Common Stock issued and outstanding as of March 1, 2019.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement relating to its 2019 Annual Meeting of Stockholders scheduled to be held on April 25, 2019 (the "2019 Proxy Statement") and filed pursuant to Regulation 14A are incorporated by reference into Part III of this Annual Report on Form 10-K.

SCHWEITZER-MAUDUIT INTERNATIONAL, INC.

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PART I.

Item 1. Business

Disclosure Regarding Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Actual results, performance or achievements could differ materially from those projected in the forward-looking statements as a result of a number of risks, uncertainties, and other factors. For a discussion of important factors that could cause our results, performance, or achievements to differ materially from any future results, performance, or achievements expressed or implied by our forward-looking statements, please refer to Part I, Item 1A "Risk Factors" and Part I, Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations" below.

GENERAL

Background

Schweitzer-Mauduit International, Inc. (referred to, with its consolidated subsidiaries, as "we," "us," "our," the "Company," "SWM INTL" or "SWM" unless the context indicates otherwise) is a multinational producer of performance materials, including papers, nets and films headquartered in the United States of America (the "U.S."). The Company operates under two reportable segments: Advanced Materials & Structures ("AMS"), which manufactures resin-based products used in specialty applications in the filtration, infrastructure and construction, transportation, industrial, and medical end-markets, and Engineered Papers ("EP"), which produces cigarette papers and reconstituted tobacco products for cigarette and cigar manufacturers, as well as various other non-tobacco paper products.

The Company was incorporated in Delaware in 1995 as a wholly-owned subsidiary of Kimberly-Clark Corporation ("Kimberly-Clark"). On November 30, 1995, Kimberly-Clark transferred its tobacco-related paper and other paper products businesses conducted in the U.S., France and Canada to the Company and distributed all of the outstanding shares of common stock of the Company to its stockholders (the "spin-off"). As a result, the Company became an independent public company. We conduct business in over 90 countries and operate 22 production locations worldwide, with facilities in the U.S., United Kingdom, Canada, France, Luxembourg, Russia, Brazil, China, Belgium and Poland.

Our principal executive office is located at 100 North Point Center East, Suite 600, Alpharetta, Georgia 30022-8246 and our telephone number is (800) 514-0186. Our stock is traded on the New York Stock Exchange ("NYSE") under the symbol "SWM."

Strategic Transformation - Overview

Through 2013, the Company operated as a tobacco-centric paper operation. In late 2012, SWM's management and Board of Directors elected to pursue a strategic transformation by increasing profit streams outside the tobacco industry through business acquisitions, while carefully managing the profitable but mature tobacco operations. Over time, this strategy was intended to counterbalance the expected long-term pressures of the tobacco industry and transform SWM into a more diversified and growth-oriented enterprise while maintaining its company-wide focus on several underlying themes: manufacturing and innovation expertise in performance materials, operational excellence, and customer intimacy. The Company selectively targeted acquisition candidates that served diversified and growing end-markets, generated profitability associated with premium differentiated products, and had leading and defensible competitive positions in their core product categories. In addition, management believed many acquisition targets

would have unique synergy opportunities when combined with the assets and capabilities of SWM, such as a global infrastructure and a robust operational excellence program, and ultimately, synergies with other similar companies acquired by SWM.

Pursuant to this strategy, management has used free cash flow and liquidity available through our credit facility to support growth investments. From 2013 to 2018 the Company invested a total of approximately \$850 million acquiring

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three primary businesses, DelStar, Argotec, and Conwed, and making two “bolt-on” acquisitions. These businesses together now comprise the Advanced Materials & Structures segment, which generated nearly \$470 million in net sales in 2018. The combination of AMS with non-tobacco sales in our paper business, resulted in total non-tobacco sales representing 51% of the Company’s total revenue in 2018, up from approximately 6% prior to these strategic actions. The EP segment has remained the source of the majority of the Company's cash flow, enabling the growth investments in the AMS segment and supporting steadily growing dividends to shareholders; the Company has paid more than \$285 million in dividends since 2013.

Strategic Transformation - Creating the AMS Growth Platform

In December 2013, the Company acquired DelStar, Inc. (“DelStar”), a manufacturer of resin-based nets, films and non-wovens, focused on the filtration, medical, and industrial end-markets. DelStar established SWM's presence in new industries and added a portfolio of high-value technologies. Management also believed DelStar could benefit from SWM's global footprint, operational excellence program, and ability to fund growth investments.

In October 2015, the Company acquired Argotec Intermediate Holdings LLC (“Argotec”), a manufacturer of urethane films for applications primarily in the transportation end-market. A key growth driver was increasing demand for surface protection films used for automotive paint protection and glass lamination. This business also serves customers in the medical and industrial end-markets. From a technology standpoint, Argotec added to SWM's growing resin extrusion capabilities and added scale to the AMS growth platform.

In January 2017, SWM acquired Conwed Plastics LLC (“Conwed”), a producer of resin-based netting. Conwed’s similarities to the Company’s existing netting production assets presented a compelling opportunity to drive synergies through footprint rationalization, procurement, and organizational realignment. Although operationally similar to AMS’ existing assets, Conwed added further end-market diversification, with approximately 75% of Conwed’s sales serving the infrastructure and construction end-markets. The remaining 25% of sales were split between filtration and industrial end-markets, which also complemented the existing AMS business.

The acquisitions described above comprise the AMS segment. The Company believes that these businesses advance SWM's goal of diversifying its revenue stream and offer long-term growth opportunities across a broad set of attractive end-markets.

AVAILABLE INFORMATION

Our filings with the Securities and Exchange Commission ("SEC"), which filings include this Annual Report on Form 10-K, Proxy Statements, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and all related amendments, are available, free of charge, on the SEC's website at www.sec.gov and on the Investor Relations section of our website at www.swmintl.com. Information from our website is not incorporated by reference into this Annual Report on Form 10-K. These reports are available soon after they are filed electronically with, or furnished to, the SEC. The website allows access to historical financial information, press releases and quarterly earnings conference calls, our Code of Conduct, corporate governance guidelines, Board of Directors committee charters, as well as disclosure of any amendment to or waivers of our Code of Conduct granted to any of the principal executive officer, principal financial officer or principal accounting officer. The website provides additional background information about us including information on our history, products and locations. Requests for information, requests to contact our audit committee chairman, lead non-management director or the independent directors as a group, or requests to report concerns about accounting or other issues can be made in writing and sent to the Investor Relations Department at our principal executive office address listed above.

Our quarterly earnings conference calls are typically held the morning after our quarterly earnings releases and are available through our website via a webcast. The tentative dates for our quarterly earnings conference calls related to 2019 financial results are May 9, 2019, August 8, 2019, November 7, 2019 and February 20, 2020. These dates are subject to change. Instructions on how to listen to the webcasts and updated information on times and actual dates are available through our website at www.swmintl.com.

We have provided a Glossary of Terms at the end of this Annual Report on Form 10-K.

DESCRIPTION OF BUSINESS

Segment Financial Information. We operate and manage two reportable segments based on our product lines: Advanced Materials & Structures and Engineered Papers. The Advanced Materials & Structures segment manufactures resin-based products used in specialty applications in the filtration, infrastructure and construction, transportation, industrial, and medical end-markets. This segment is comprised of the five businesses we acquired from 2013 to 2017: DelStar, the Pronamic and SNN acquisitions, Argotec and Conwed, which the Company has integrated into a more holistically aligned operating segment. Our Engineered Papers segment produces both tobacco-related papers and non-tobacco-related papers. Our tobacco-related papers, which comprise a large majority of EP's sales, include various papers used in cigarette production and reconstituted tobacco ("Recon"), a reprocessed tobacco material.

Additional information regarding "Segment Performance" is included in Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operation. In addition, selected financial data for our segments is available in Note 21. Segment Information, of the Notes to Consolidated Financial Statements and a discussion regarding the risks associated with foreign operations is available in Part I, Item 1A, Risk Factors, Market Risk. In conjunction with the change in reportable segments, corresponding information for all prior periods presented has been restated to correspond to the presentation in the current year.

Financial information about foreign and domestic operations, contained under the caption "Management's Discussion and Analysis of Financial Condition and Results of Operation" appearing in Part II, Item 7 herein and in Notes 13, 14, 17 and 21 ("Restructuring and Impairment Activities," "Debt," "Income Taxes" and "Segment Information," respectively) to the Consolidated Financial Statements contained in "Financial Statements and Supplementary Data" in Part II, Item 8 herein, is incorporated by reference in this Item 1.

Advanced Materials & Structures

Products. We manufacture and sell a variety of highly engineered resin-based nets, films, and other non-wovens. These performance materials are often used in growing applications serving the filtration, infrastructure and construction, transportation, industrial, and medical end-markets. Most of our production technologies are extrusion-based, meaning resin pellets are heated, softened, and forced through a metal die to form continuous sheets or strands. We have significant technological expertise in proprietary die construction, which our competitors often outsource, and we consider this an advantage in protecting our technology and competitive position. However, unlike the EP segment which relies primarily on patent protection for key innovation protection, AMS relies more heavily on trade secrets and manufacturing "know-how."

Our thermoplastic nets are used in a variety of applications, the most prominent of which is their use as spacer netting in reverse osmosis water filtration ("RO filtration") devices. We have established a strong presence in this application by customizing products to meet demanding customer specifications, such as thickness/weight, flow characteristics, and heat and pressure resistance. Our nets are also used in a variety of other filtration applications such as fuel and hydraulic fluid filters, pharmaceutical filters, and food and beverage filters. Another key netting application is erosion and sediment control products for the infrastructure and construction end-markets. Our nets are the outside layers in erosion control blankets, which are used to prevent erosion on sloped terrain. We also produce sediment control "socks" which are used to set perimeters around various development sites to contain sediment and prevent contamination of water sources. Our nets can also be found in a variety of industrial applications such as carpet cushion support and retail food packaging.

We manufacture our thermoplastic polyurethane films ("TPU") to have combinations of the following attributes; UV, scratch and water resistance and ultra-clarity. The ability to demonstrate these rare combinations make them ideally suited for demanding transportation-related surface protection applications, primarily automotive paint protection and

security reinforced glass. These products are also used in certain niche applications such as graphics and laminated textiles in the industrial end-market, and also in the medical end-market. Other films, including apertured film products, are used in wound care applications, such as finger bandages and wound dressings for the medical end-market and are also used in specialty liquid filters for ultra-pure semiconductor manufacturing processes.

Our non-wovens are typically air-laid resin-based materials often used in liquid filtration and residential and commercial air filtration. In addition to rolled goods, SWM also manufactures rigid core tubing, an extruded resin product that also is primarily used in reverse osmosis water filtration devices, and flexible tubing used in various medical and industrial applications.

With the growth of our AMS division, our technical expertise around resin-based materials is increasing. We believe we have industry-leading innovation capabilities and an expanding product portfolio which we expect to support growth through collaborative product development opportunities with our customers.

Markets and Customers. The AMS segment supplies customers serving the filtration, infrastructure and construction, transportation, medical, and industrial end-markets. Generally, the applications and customers the AMS segment serves are in growing end-markets, and as a percentage of total AMS segment sales are as follows: filtration - 25%, infrastructure and construction - 30%, transportation - 25%, medical - 10%, industrial - 10%. These products are highly engineered and often customized. In some cases, we are the sole supplier of certain products to our top customers, though no customer represents more than 10% of our consolidated net sales.

Within the filtration end-market, reverse osmosis water filtration has exhibited historical long-term growth due to increasing global demand for drinkable water and we expect global infrastructure investments in this area to continue long-term. Our other filtration products are often used in the food and beverage industries and heavy equipment and machinery used in the oil and gas industries, filtering fuel and other hydraulic liquids, as well as serving other functions in the exploration, processing, and transport of oil, gas, and metals. We refer to non-RO liquid filtration products generally as process filtration. While sales of process filtration products, particularly those used in the oil, gas, and mining sectors, can be subject to cyclicity and commodity price volatility, we expect strong long-term demand across the product line.

Our sales to the infrastructure and construction end-market are largely comprised of erosion/sediment control products. Our netting is used in the production of erosion control blankets, which are used in highway development projects to cover roadside slopes during and after construction until vegetation has stabilized the ground. This is a primarily U.S. business, with expected growth supported by continued highway infrastructure investments. We also offer customers a unique sediment control solution, a filled “sock”, used to seal perimeters of development sites which could contain harmful contaminants. This product has gained adoption in the oil and gas exploration and production industry, and also has potential to displace legacy competitive products such as silt fence, which is often used to surround various construction sites to control sediment. In the construction segment, our netting products are used as support material for carpet cushion, construction materials protection, and support backing for sod production.

The majority of our TPU films are used in transportation-related surface protection applications, specifically automotive paint protection. This product is typically sold and installed in the after-market through dealerships or auto body shops. Recently, we have benefited from global adoption of paint protection films, particularly in Asia. Other surface protection applications, such as ballistic-resistant and security glass used primarily on vehicles can be impacted by government and military contracts. These films are also used in commercial architectural glass.

Our industrial applications are spread across a variety of other industries, such as apparel, food manufacturing, graphics and energy, while our medical film products largely serve the wound care management area of the medical end-market.

Sales and Distribution. AMS products are primarily sold by the marketing, sales and customer service organizations of our AMS operations directly to manufacturers, however, in some geographic regions, we use sales agents to assist us in the sales process. As part of our enterprise transformation and integration efforts related to our recently acquired companies, we re-branded the acquired companies and transitioned our AMS sales operations toward a more unified organization. All acquired companies have been re-branded as SWM and the AMS sales organization will operate and

go to market under the SWM trade name, with sales resources deployed by end-market and focused on selling products from across the totality of AMS offerings.

We typically deliver our products to customers by truck, rail and ocean-going vessels. As is typical in the industries in which we operate, ownership of the product generally transfers to our customer upon shipment from our manufacturing

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facilities, except for certain export sales where ownership typically transfers at the foreign port or customer facility. In certain instances, we produce and hold or consign products for a limited number of customers for which title does not transfer until shipment from our manufacturing facility or the products are used by the customer. In these instances, we recognize revenue related to these products when control of the product transfers to the customer.

Competition. Our AMS products are typically leaders in their respective categories and compete against specialty products made by competitors such as Marshall Manufacturing Company, Johns Manville, a subsidiary of Berkshire Hathaway Inc., Shaoxing Naite Plastics Co. Ltd., 3M Company, Covestro AG, Tenax Corporation, Intermas Group, and Hollingsworth and Vose Company. We believe our AMS products compete primarily on product features, innovations and customer service across the end-markets we serve. Of the end-markets we serve, industrial is generally the most price competitive due to a higher portion of commodity-type products that we often sell in order to maximize our machine utilization.

Raw Materials and Energy. The primary raw material used in our AMS products is plastic resin, and we rely on a variety of commodity grade and specialty resins, including polypropylene, polyurethane, polyethylene, polyamide (nylon) and a selection of specialized high temperature engineering grade resins. Our thermoplastic nets and apertured films are produced using a blend of specialty resins and commodity grade resins like polypropylene. Resin prices can fluctuate significantly and can impact profitability. Commodity grade resin prices typically correlate with crude oil prices while specialty resin prices often do not. Our TPU films are produced using specialty resins which are significantly more expensive than commodity grade resins.

We have multiple sources for most of our resin needs. However, some of our specialty resins are supplied by fewer manufacturers. We believe that our purchased raw materials are generally available from several sources and that the loss of a single supplier would not likely have a material adverse effect on our ability to procure needed raw materials from other suppliers. Our total resin purchases in 2018 and 2017 totaled \$143 million and \$129 million, respectively.

The majority of our energy requirements relate to electricity in the U.S. We consider this to be a relatively stable energy source.

Backlog and Seasonality. In the AMS segment, customer orders are generally manufactured and shipped within 30 days or, in certain instances, within three months. Sales of our products within AMS are generally not subject to large seasonal fluctuations: however, we would expect the second and third quarters to be relatively stronger than the first and fourth quarters. As of December 31, 2018 and 2017, the AMS segment order backlog was approximately \$65 million and \$71 million, respectively.

Engineered Papers

Products. Our EP segment produces both tobacco-related and non-tobacco-related papers. Our tobacco-related papers include various papers used in cigarette production and reconstituted tobacco ("Recon"), a reprocessed tobacco material, and comprise a large majority of EP's sales.

One of our key cigarette paper products is low ignition propensity ("LIP") cigarette paper. LIP cigarettes are designed to self-extinguish when not actively being smoked, thus offering a fire-safety feature. The U.S., the European Union ("E.U."), and several other smaller jurisdictions have mandated the use of LIP papers. Our solutions pioneered this cigarette paper category, and we remain a leader in this cigarette paper sub-segment through either direct sales or through licensing agreements. The Company maintains an extensive and active intellectual property portfolio.

Recon is another key component of EP's total sales and profits. The most significant of our Recon products is reconstituted tobacco leaf, ("RTL" or "traditional RTL"), which cigarette manufacturers often blend with virgin tobacco to achieve certain attributes in cigarettes, such as taste or reduced delivery of tar, nicotine, or other tobacco-related

smoking constituents. Historically, the production of RTL has often been a cost-effective use for tobacco leaf scraps, though virgin leaf price and inventory supply conditions can shift the relative attractiveness of our products. We also produce a similar line of Recon products referred to as wrappers and binders for use in machine-made cigars. Recently, a new generation of tobacco industry products generally referred to as Heat not Burn (“HnB”) have been introduced into the

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marketplace with a goal of reducing harmful effects of smoking. We generated commercial sales in 2018, and continue to develop products to meet potential demand should global consumer adoption gain momentum and the technology gains support from appropriate regulatory authorities.

Our non-tobacco paper products include a mix of lightweight papers including low-volume, high-value, engineered materials such as alkaline battery separator papers, as well as high-volume commodity paper grades for printing and writing, flooring laminates, and food service packaging, which are intended to maximize machine utilization. We intend to make continued diversification investments in our EP segment to broaden our offerings, utilize existing machine capacity, and/or further monetize our paper making and reconstitution technologies.

Our wet-laid paper making technologies can be broadly classified into two main production processes: flat-wire production and incline-wire production. Generally, our machines are flat-wire, meaning a liquid slurry of short pulp fibers and water are laid onto flat-wire conveyor belts, with the water draining through the wire as the fibers (wood, flax, tobacco, etc.) bond together to form a paper sheet. Incline-wire machines allow for increased drainage, enabling the use of longer fibers which bond into a more open web, increasing the porosity. Incline wire machines are typically associated with higher-value products given this added porosity, which is important in filtration and other specialty applications that tend to justify premium pricing.

The Company continues to focus resources on innovation through activities in our OneFiber lab where paper customers can work closely with our technologists to develop improved paper-based products and our LeafLab fiber reconstitution incubator at our facility in France. Our reconstitution technologies have potential to be utilized in products serving the cosmetics and packaging industries reprocessing botanical, vegetable, or other plant fibers. Furthermore, SWM's Recon technologists are active in joint development with several cigarette manufacturers to drive continued innovation and product commercialization in the rapidly emerging Heat not Burn tobacco product area.

Markets and Customers. Our EP segment is heavily influenced by global smoking trends, particularly in the U.S., the E.U. (both LIP markets), and Brazil where we have the majority of our operations and highest share of the category's volume. Historically, mature geographic regions, such as the U.S. and the E.U. have exhibited a steady decline in smoking rates, often to the low-to-mid single digits. Overall, approximately 88% of EP segment sales are to customers in the tobacco end-market, with the majority of tobacco sales comprised of cigarette papers, and approximately 12% of EP segment sales are related to a variety of non-tobacco customers and applications.

We supply the major, and many of the smaller, cigarette and cigar manufacturers. We sell our products directly to the major tobacco companies or their designated converters in the Americas, Europe, Asia and elsewhere. Philip Morris-USA, a subsidiary of Altria Group Inc., Philip Morris International ("PMI"), Japan Tobacco Inc. ("JT"), and British American Tobacco ("BAT"), are our four largest customers and, together with their respective affiliates and designated converters, accounted for 28%, 31% and 35% of our 2018, 2017 and 2016 consolidated net sales, respectively. Although the total loss of one or more of these large customers could have a material adverse effect on our results of operations, we do not believe that such a loss is likely given our significance in the worldwide supply chain of cigarette-related papers.

Sales and Distribution. Our internal marketing, sales and customer service organizations sell most of our tobacco-related products directly to cigarette manufacturers or their designated converters. Most of our EP segment's non-tobacco related products are sold directly to manufacturers. In some geographic regions, we use sales agents. We do not sell our products directly to consumers or advertise our products in consumer media. We typically deliver our products to customers by truck, rail and ocean-going vessels. As is typical in our industry, ownership of the product generally transfers to our customer upon shipment from our plants, except for certain export sales where ownership typically transfers at the foreign port or customer facility.

Competition. The specialized nature of tobacco-related papers requires unique papermaking equipment, technical expertise, and research and development capabilities to meet exacting customer specifications. These factors have limited the number of competitors capable of servicing global cigarette manufacturers.

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As the sole domestic producer of cigarette papers in North America and Latin America (SWM production in Brazil), we believe that we have a significant majority of the category share in those regions. Our paper plants in France and LIP printing facility in Poland sell a large amount of their products in the E.U. We estimate that we have a direct share of more than 40% of cigarette paper sales in the E.U., and coupled with royalty payments from a key competitor to whom we have licensed our LIP technology, we believe we are able to monetize over 80% of the LIP-compliant E.U. cigarette market. Our principal competitors include delfortgroup AG ("delfort"), which licenses our LIP technology, Miquel y Costas & Miquel S.A. ("Miquel y Costas"), Julius Glatz GmbH ("Glatz") and PT Bukit Muria Jaya ("BMJ"). In December 2017, the Dusseldorf Court of Appeals affirmed the German District Court judgment of patent infringement against Glatz including an injunction against making and selling LIP cigarette paper. We believe that the basis of cigarette and our non-tobacco papers competition is price, consistent quality, security of supply, and level of technical service.

Outside of China, SWM is the only non-cigarette company that produces RTL through a paper-making process. Some cigarette companies such as Philip Morris-USA, British American Tobacco, JT and STMA (China) produce RTL primarily for their own internal use. Our customers' cigarette blending decisions, which affect our traditional RTL sales volumes, can be influenced by worldwide virgin tobacco prices and availability as well as the general attractiveness of various competing in-house Recon products. Huabao International Holdings Ltd, a Hong Kong company, produces Recon in China. We believe that the basis of competition in this geographic region is primarily quality and price. Similarly, for HnB products, we believe we are the only non-cigarette manufacturer with production capabilities.

Raw Materials and Energy. Wood pulp is the primary fiber used in our EP segment. Our operations consumed approximately \$54 million and \$42 million of wood pulp in the years ended December 31, 2018 and 2017, respectively, all of which we purchased. While EP uses other specialty fibers, such as flax, in our operations, we believe that purchased raw materials are generally available from several sources.

Paper production uses significant amounts of energy, primarily electricity, natural gas and fuel oil. We believe that energy supply is generally reliable throughout our manufacturing footprint, although prices can fluctuate significantly based on demand. We enter into agreements to procure a portion of our energy requirements for future periods in order to reduce the uncertainty of future energy costs. We also have a sustainability program focused on reducing our impact on the environment.

Additional information regarding agreements for the supply of certain raw materials and energy is included in Note 20. Commitments and Contingencies, of the Notes to Consolidated Financial Statements.

Backlog and Seasonality. While our U.S., Polish and Brazilian EP operations do not calculate or maintain records of order backlogs, we typically receive forecasts of future demands from certain larger customers which are used to manage production and ensure sufficient supply of paper products. Our French paper operations order backlog was approximately \$27 million and \$34 million on December 31, 2018 and 2017, respectively. Paper orders are typically received and shipped within a 30-day period. The RTL business operates predominately under a number of annual supply agreements. The order backlog for RTL was approximately \$92 million and \$100 million on December 31, 2018 and 2017, respectively, and is typically filled within one fiscal year.

Generally, sales of our paper and Recon products are subject to seasonal fluctuations due to periodic machine downtime and typically lower order volumes in the fourth quarter.

Research and Development

As of December 31, 2018 we employ approximately 93 research and development employees in research and laboratory facilities in France, Brazil, Poland, and the U.S. We are dedicated to developing product innovations and improvements to meet the needs of individual customers. We believe that our research and product development capabilities have played an important role in establishing our reputation for high quality, superior products in both our AMS and EP segments. Within AMS, we have a history of finding innovative design solutions, including developing products that improve the performance of customers' products and manufacturing operations. We believe that our commitment to research and development, coupled with our investment in new technology and equipment, has positioned us to take advantage of growth opportunities in many places around the world. Within EP, our research and development has enabled us to establish and sustain leading shares in various cigarette paper products, specifically LIP paper. We also are working with customers to meet potential future demand for reduced-harm tobacco products.

Patents and Trademarks

As of December 31, 2018, we owned 38 patents and had 52 pending patent applications in our AMS segment. While we consider our patents, and the protection thereof, to be important, no single patent or group of patents is material to the conduct of our AMS business segment.

In our AMS segment, as described in the branding initiative discussed above, SWM made a strategic decision to transition away from certain legacy business trade names associated with our recent acquisitions in favor of a streamlined SWM enterprise branding approach. Thus, in 2016, the Company recognized an impairment of our DelStar trade name asset as further described in Note 11. Intangible Assets, of the Notes to Consolidated Financial Information. The Company will continue to market its products under the long-standing product-level brand names and trademarks such as "NALTEX®," "DELNET®," "ARGOGUARD®" and "ARGOTHANE®."

As of December 31, 2018, we owned 234 patents and had 110 pending patent applications in our EP segment, covering a variety of cigarette papers, RTL, cigar wrapper and binder and other products and processes in the U.S., Western Europe and several other countries. We believe that our patents, together with our papermaking expertise and technical sales support, have been instrumental in establishing us as the leading worldwide supplier of cigarette papers. We believe that patents have contributed to our position as the world's leading independent producer of papers used for LIP cigarettes.

Management believes that in the EP segment, our "ALGINEX®" water-based technology trademark, our "GLUCIGEN™" trademark for use in banded papers for the production of LIP cigarettes, and the "SWM" logo and trade names have been important contributors to the marketing of our products. Further, we have developed, individually or in conjunction with customers, technologies to address the demand for cigarette paper for LIP cigarettes in the U.S., Canada, Australia and the E.U. We have licensed to others the right to use certain of our LIP intellectual property, excluding ALGINEX® related intellectual properties.

Management of a large portion of SWM's research and development activities is provided from our Luxembourg City, Luxembourg operation ("SWM Luxembourg"). These activities are often performed at other SWM locations under contract by SWM Luxembourg, and funded by SWM Luxembourg. SWM Luxembourg has the authority to initiate and manage research and development projects in areas such as, but not limited to, LIP paper, Recon for heat-non-burn devices, netting and other extruded resin products, and our non-tobacco products unit (Advanced Fibers and Materials). This operation also provides global oversight and active management for much of the Company's intellectual property rights.

Employees

As of December 31, 2018, we had approximately 3,500 regular, full-time, active employees.

North American Operations. Hourly employees at the Spotswood, New Jersey, Ancram, New York and Minneapolis, Minnesota plants are represented by locals of the United Steel Workers Union. The two-year collective bargaining agreement with hourly employees at our Spotswood plant is effective through July 28, 2020. The three-year collective bargaining agreement with employees at our Ancram plant is effective through September 30, 2020. The three-year collective bargaining agreement with hourly employees at our Minneapolis facility is effective through October 31, 2020. We believe employee and union relations continue to be positive at the Spotswood, Ancram and Minneapolis operational facilities.

Our operations in Canada, South Carolina, Massachuset