

REPORT & ANALYSIS:

THE EUROPEAN NARROW WEB MARKET

FINAT RADAR 12
2ND SEMESTER 2019

REPORT & ANALYSIS: THE EUROPEAN NARROW WEB MARKET

Dear Reader,

It is my pleasure to present you the 12th edition of our 6-monthly FINAT Radar report.

The report comes at a time of continued uncertainty, although with the outcome of the UK elections, it is highly likely that Brexit is a business reality that our industry will have to deal with in the course of 2020.

As reported on previous occasions, our industry is a significant indicator of the general economic cycle, and judging by our own quarterly labelstock statistics, Europe has been at a turning point throughout 2019, with a mixed growth picture across the main regions of our continent, but an overall slowdown for the year as a whole seems inevitable. At this point it is too early to tell, but the positive feedback I got after Labelexpo Europe at the end of September will hopefully have a positive effect on investment activity.

The self-adhesive label and narrow-web industry has always thrived on its positive outlook into the future, and its eagerness to innovate, anticipate and adapt to prospective market demand. In that sense, this edition of the FINAT Radar provides interesting insights into the evolution of the perspectives of our industry's customer base. One encouraging signal is that self-adhesive labels are firmly embedded in our customer's market portfolio, as they are an indispensable component of their market strategy, both as brand identifier and as supply chain enabler.

This provides us with a solid basis from which to invest into further innovations, especially where it concerns sustainability, recycling and food safety, areas in which FINAT will be presenting (the fruits of) some interesting new activities in 2020.

I wish you all Happy Holidays and look forward to seeing you at our events the coming semester: the FINAT Technical Seminar in Barcelona on 4-6 March, and of course our European Label Forum in Rome from 3-5 June.

Chris Ellison FINAT President

Researched and compiled by LPC, Inc



TABLE OF CONTENTS

SCOPE OF THE REPORT	4
Chart: % of Brands Claiming Environmental Certification is a Label Vendor Requirement	
SECTION I: BRAND OWNER VIEWPOINT: LABEL PROCUREMENT GROWTH AND SOURCING TRENDS	5
Chart: End-Use Categories Served by Participating Brand Owners	
Chart: Brand Owner Participation by European Region	
Chart: Brand Owner Participation by Job Function	
Will Brand Owners be buying more labels? Projection Volumes for 2020	6
Chart: Brand Owners' Label Volume Purchasing - Projections for 2020 (All Formats*)	
Chart: Brands Predict Label Volume Growth – All European Regions	
Migration away from Self-Adhesive to other Labelling Formats	6
Chart: Will brands be migrating away from self-adhesive in the coming years	
FINAT RADAR Shrink Sleeve Index	7
Chart: % of Companies indicating some of their Products Migrating from PS to Shrink Sleeves	
Chart: Decoration Migration Projections: 2019 (from 2018 Survey) vs. 2020	
Digital Labels	8
Chart: Are Partcipants currently sourcing Digital Labels?	
• Chart: What do Brands consider to be the most important Drivers related to sourcing Digital Labels for their Products?	
Chart: Brand Owners' Digital Label Volume Purchasing Projections for 2020	
Chart: Charting Projected Label Procurement Growth: All Labels vs. Digital Labels	
SECTION 2: VOICE OF THE BRAND OWNER: THE DYNAMIC BETWEEN THE LABEL BUYER AND THE LABEL CONVERTER	10
Chart: How Important is it that Label Vendors have Environmental Certification?	
Chart: % of Brands claiming Environmental Certification is a Label Vendor Requirement	
Label Delivery Times	10
Chart: Lead Times from Companies' Label Vendors for existing Jobs/Orders	
Chart: Lead Times from Label Vendors for new Jobs/Orders	
Chart: Average Lead Times for Labels: Existing Jobs and New Jobs	
 Chart: Do Brands / Packaging Buyers Think Lead Times from their Label Vendors are Adequate? 	
Chart: Do Brands think Lead Times are Adequate? 2018 Survey vs. 2019 Survey	
Chart: How often do Companies request 1-3 day Print Runs for Labels?	
Label Vendor Proximity and do Companies want their Label Suppliers to have more than one Facility?	12
Chart: How important is it that Label Vendors have More than one Production Facility?	
SECTION 3: LABELSTOCK GROWTH PER EUROPEAN REGION	14
Chart: Change Compared to Prior Year - Roll Paper Labelstocks: Q3 2019 vs. Q3 2018	
Chart: Change Compared to Prior Year - Roll Film Labelstocks: Q3 2019 vs. Q3 2018	

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EDITORIAL CONTRIBUTIONS
Jules Lejeune (FINAT)
Content Editorial and Research:
Jennifer Dochstader (LPC, Inc.)
David Walsh (LPC, Inc.)

PUBLISHED BY FINAT P.O Box 85612 NL2508 CH The Hague The Netherlands www.finat.com T: +31 (70) 312 39 10 F: +31 (70) 363 63 48

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SCOPE OF THE REPORT

In comparing the Brand Owner Survey results from the past three years, we see that the market for label procurement in Europe is continuing to soften. In 2017, participating companies projected that their label procurement volumes would grow by 4.8% in the coming year and in 2018, companies projected their label procurement volumes would grow by 3.9% in the year to come. This year's FINAT RADAR Brand Owner Survey data show companies predicting their label procurement volumes will grow by a more modest 3% in 2020. Downward growth reflects overall economic performance, and projections, for the EU and our research suggests that while a downward trend continues for label procurement, growth above total market GDP is still projected to continue for the foreseeable future. However, uncertainties remain. With the UK's withdrawal from the EU certain in the near-future, the precise impact that Brexit will have on the region's overall economic landscape and our smaller world of label printing is unknown. During interviews when asked to comment on Brexit and the influence it will have on the printed packaging industry's supply chain, the response of brands and packaging buyers can be summed up in three words: Time will

In addition to more cautious predictions for label sourcing volumes, we see another trend surfacing from this year's brand research that reinforce these companies' desire to stick with the

status quo. Seventy-five percent of all brand and packaging buyer participants indicated they would not be migrating away from self-adhesive toward other labelling formats for any of their products in the coming year. This is the highest percentage we have witnessed of companies remaining committed to self-adhesive rather than exploring other decoration options for their products.

One unexpected outcome of this year's research was the number of companies indicating that environmental certification is an absolute requirement for their label vendors. This year's research actually shows a decline in the percentage of brands and packaging buyers stating that environmental certification is a label vendor requirement. As the graph shown below indicates, we have not seen a marked increase in the number of brands and packaging buyers making environmental certification a must for their label suppliers. Could it be that economic uncertainty has perhaps made sustainability initiatives a lower priority for the foreseeable future? Time will tell. However, this is certainly an area that the FINAT RADAR will continue to track and to analyse in depth.

Sincerely, LPC, Inc.



Note: This edition of the FINAT RADAR does not have a Digital Press Index. Starting in 2020, FINAT will be tracking new digital press sales on a quarterly basis and will be making the data available to all members in future editions of the RADAR report.

Section 1

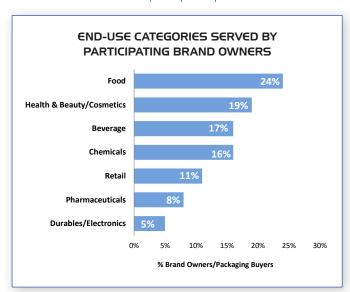
BRAND OWNER VIEWPOINT: LABEL PROCUREMENT GROWTH AND SOURCING TREND

Label purchasing volume growth projections, companies' loyalty to their label vendors, migration from self-adhesive to other label formats, the RADAR Shrink Sleeve Index, drivers of digitally-printed label procurement and companies' projections of sourcing growth for digital labels in the coming year.

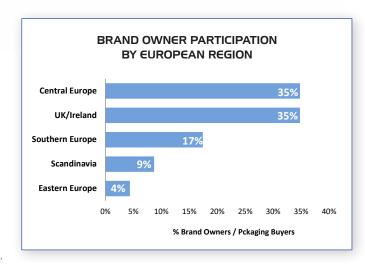
More than 70 brand owners and packaging buyers participated in the 2019 Brand Owner Survey for this edition of the RADAR and a select group of additional companies across end-use verticals agreed to participate in extensive one-on-one interviews. Survey participants either directly source labels or they directly influence the label procurement, design, print production or package engineering process.

It is important to note that brand owners from every major European region participate in the brand owner surveys and follow-up qualitative interviews. To ensure the RADAR indices reflect the true movements of the market, on average 60-65% of the same brand owner companies participate year after year. This allows researchers to put together the analysis for trends such as shrink sleeves, in-mould labelling and environmental certification at the label-converter level in addition to helping us gauge brands' overall loyalty to their label vendors year over year.

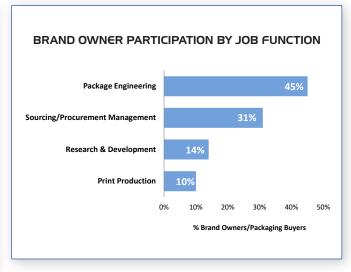
The central objective in surveying brand owners is that companies of every size – from multinational conglomerates to smaller, regional brands – participate and that the majority of end-use labelling categories are represented. The graph below indicates a breakdown of brand owner participation per end-use sector.



At the request of the FINAT Board last year, in the FINAT RADAR moving forward we are now showing the percentage of brands that participate by European region. The graph on the top right breaks down brand owner participation by their facility's primary location.



When asking participants to qualify themselves, it is also important that we understand not only the end-use categories they serve but also their specific job functions. The RADAR Brand Owner Survey is completed by personnel that are either directly involved in the sourcing and procurement of labels, or have an influence over labelling design and/or label functionality. The following chart shows participation by specific job function.

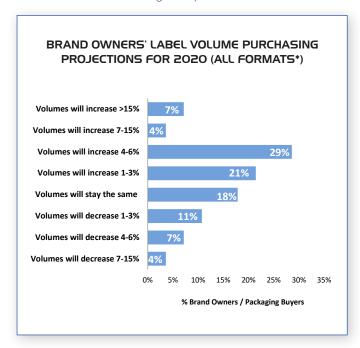


Once again, the largest group of survey participants includes personnel at the package engineering level. It's important to note that these respondents (the packaging engineers who participate in the RADAR surveys) are directly involved in analysing labelling performance in existing production lines and the impact of label constructions on the application process. The package engineers

that participate in the RADAR are also active members of label sourcing teams, constantly managing the development and implementation of continuous improvement programmes for the label applications their companies purchase for application to their products.

WILL BRAND OWNERS BE BUYING MORE LABELS? PROJECTION VOLUMES FOR 2020

One of the first things the RADAR Brand Owner Survey asks participants to do is to indicate the rate at which their purchased label volumes will increase, or decrease, over the course of the next 12 months. Respondents are given a range of values to choose from (1-3% label volume increase, 4-6% label volume increase, 0% increase, etc.) and the chart below indicates a breakdown of label volume growth predictions for 2020.



Note: Numbers do not equal 100% due to rounding.*Includes all labelling formats (self-adhesive, shrink sleeves, etc., in addition to both conventionally and digitally printed labels)

In last year's FINAT RADAR Brand Owner Survey, 18% of companies indicated that the label volumes they purchase would decrease in the year ahead. This year's RADAR Brand Owner Survey paints a slightly different picture with 22% of companies indicating the volume of labels they source in 2020 would decrease compared to the volumes they sourced for 2019. In this year's Brand Owner Survey, 61% of participants stated that their label procurement volumes will increase in the coming year compared to 65% of participants indicating that their label procurement volumes would increase in last year's survey.

Important note: As stated in previous editions of the report, the majority of brands participating in the RADAR survey are the same companies that have participated in the FINAT RADAR Brand Owner Survey since 2014. This ensures that label sourcing projections are a true gauge of the directions of the overall marketplace.

While we are once again witnessing declining levels of optimism for label sourcing growth for 2020 compared with last year's survey results, it's important to keep in mind that the *majority of participants are still indicating an increase in year-over-year label sourcing volumes*, and 11% of surveyed companies predict that their label sourcing volumes in 2020 will increase by 7% or more.

The table below compares label volume sourcing projections for this year's RADAR Brand Owner Survey with the results from the survey carried out one year ago.

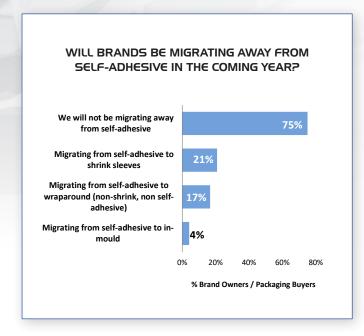
BRANDS PREDICT LABEL VOLUME GROWTH – ALL EUROPEAN REGIONS		
Average Label Procurement Volume Projected Increase for 2019* (from last year's survey results)	3.9%	
Average Label Procurement Volume Projected Increase for 2020* (from this year's survey)	3.02%	
Brand Owners Indicating Label Procurement will Increase in 2020	61%**	
Brand Owners Indicating Label Procurement will Stay the Same in 2020	18%**	
Brand Owners Indicating Label Procurement will Decrease in 2020	22%**	

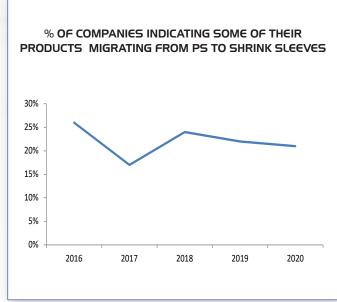
* For both years label procurement volume shifts were/are projections, not actual historical data. This allows us to gauge and to report on brand owner confidence and optimism for the coming year. 2019 projections were from the RADAR 2018 Brand Owner Survey.

MIGRATION AWAY FROM SELF-ADHESIVE TO OTHER LABELLING FORMATS

The FINAT RADAR has been closely tracking the migration away from self-adhesive labelling formats to other decoration technologies including shrink sleeves, in-mould, and wraparound/non-shrink labels. Each year the Brand Owner Survey asks participants if their company plans to migrate a portion of their self-adhesive business to another labelling format within the coming year and if so, to indicate what that projected format would be. The graph on the next page breaks down participants' responses.

^{**} Note: Numbers do not equal 100% due to rounding.





Note: Numbers equal more than 100% due to some brands having multipole migrations for different product lines.

Seventy-five percent of surveyed companies indicated that they will not be migrating away from self-adhesive to other decoration methods for any of their products in 2020, an increase compared to companies' projections from last year's survey. Twenty-one percent of respondents indicated that they would be migrating from self-adhesive labelling to shrink sleeves for some applications while 4% of participating companies indicated that they would be migrating from self-adhesive to in-mould for an existing self-adhesive application. The brand owners indicating migration from self-adhesive to shrink sleeves serve the following end-use categories:

- Food (highest rate of self-adhesive to shrink projected migration)
- HABA/personal care (second highest rate of self-adhesive to shrink projected migration)
- Household Chemicals (third highest rate of self-adhesive to shrink projected migration)

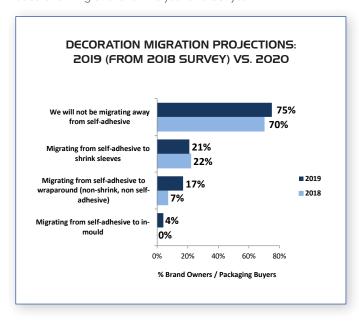
FINAT RADAR SHRINK SLEEVE INDEX

Tracking the migration from self-adhesive labels to other decoration formats on an annual basis allows us to gauge future interest in certain formats and brands' continued interest in entering new labelling format frontiers. One of the most dynamic shifts over the past decade has been the migration from self-adhesive labels to shrink sleeves. The graph on the top right shows the percentage of brands and packaging buyers that have indicated that some of their products would move from self-adhesive labels to shrink sleeves for each year since 2015 (in 2015 brands were projecting migration for 2016).

It's important to note that each year companies were asked to predict their migration for the coming year. Therefore, this graph does not depict actual migrations, rather companies' projections of whether or not a labelling format migration would actually happen.

Our survey data shows that 'peak interest' for migrating from self-adhesive to shrink was in 2015 when 26% of brands and packaging buyers indicated some of their applications would migrate for the coming year. We saw renewed interest in 2018 however since that time, shrink sleeve migration projections continue to slowly decrease year over year. It will be interesting to gauge companies' projections in another year's time.

The following graph compares companies' projected label decoration migrations for this year and last year.

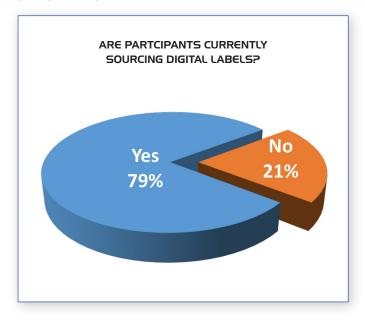


As we can see, year-over-year projection changes aren't significant for most of the categories with the exception of brands projecting the migration away from self-adhesive labels to wraparound applications (non self-adhesive, non-shrink labels). In last year's survey 7% of companies projected this migration would occur with some of their products for the coming year and in this year's survey that percentage jumped to 17%. All companies indicating this migration serve either the food or beverage sectors (or both). As has been the trend in the last few RADAR Brand

Owner Surveys, we see an increased allegiance to remaining with self-adhesive labelstocks with three out of four companies indicating they would not be migrating away from self-adhesive to any of the other formats in this year's survey.

DIGITAL LABELS

Another important market force the FINAT RADAR examines closely every year is the drivers behind the procurement of digital labels in addition to companies' projected growth rates for the volumes of digital labels their companies will source in the coming year. The first question in the digital section of the survey asked companies if they are currently sourcing digitally printed labels for any of their products. The pie chart below shows participants' responses:



Nearly 80% of all participating brands and packaging buyers are currently sourcing digitally printed labels for some, or all, or their products. In order to effectively gauge companies' perception of the hierarchy of the drivers behind digital label sourcing, participants were asked to rank a series of criteria from most to least important. Those criteria included:

- The ability to print variable logistical data such as dates, serialized codes, etc.
- The ability to personalize (each label can be different with differing images and/or content)
- The ability to reduce label inventory levels
- The ability to print small run sizes
- The ability to do late-stage customization
- · The ability to have faster turnaround times

The table on the right shows how companies ranked these digital label-sourcing drivers from most to least important.

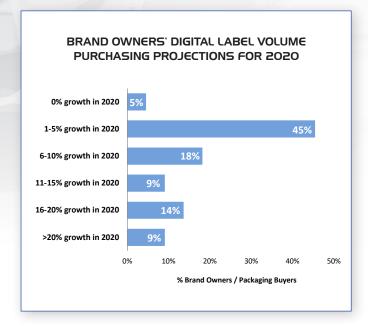
WHAT DO BRANDS CONSIDER TO BE THE MOST IMPORTANT DRIVERS RELATED TO SOURCING DIGITAL LABELS FOR THEIR PRODUCTS?

The ability to print small run sizes	#1 (most important)
Faster turnaround times	#2
Ability to print variable logistical data	#3
Inventory reduction	#4
Personalization	#5
Late-stage customization	#6 (least important)

Unsurprisingly, our survey shows that brands consider the ability to print small run sizes the most significant driver behind the sourcing of digitally printed labels. Companies ranked the ability to achieve faster turnaround times as the second most important driver. These two criteria demonstrate that a top priority for label buyers is still the ability to print smaller run sizes as SKU proliferation continues to grow across all end-use verticals, and that the ability to have these smaller run sizes delivered within faster turnaround times is also considered essential. The rankings were calculating an average for each criteria. The highest-ranked (ability to print small runs) and second-highest (faster turnaround times) were set apart with markedly lower averages (meaning they were ranked more significantly) than the others with more marginal differences in gaps between the remaining four criteria.

Something else of interest from the survey results is the placement of personalization and late-stage customization at the bottom of the list of criteria that drive the purchase of digitally printed labels. Over the past half-decade we have seen digital OEMs increasingly utilize the ability to print personalized labels and late-stage customization as primary marketing aspects of digital label printing, however this messaging does not appear to be nearly as important in the eyes of brand owners and packaging buyers as the ability to print smallest run sizes, achieve fastest turnaround times and print variable logistical data. Economic uncertainty could also play a role here as brands may want to remain with the 'status quo' for the time being, placing promotional campaigns that might require personalized labelling and/or late-stage customization on hold. It will be interesting to gauge brands' perceptions of the benefits of digital printing in the coming years to find out if the ranking of these drivers might change in any way or will remain exactly the same.

Once again, the RADAR Brand Owner Survey asked participants to indicate what they predict their companies' digital label sourcing volume growth will be for 2020. Like the survey question that asked companies to indicate overall label procurement growth, or contraction, companies were given a range of values to choose from. The graph on the next page indicates a breakdown of all participants' responses.



Note: No companies indicated digital label procurement would decline in the coming year.

Nearly one-third of participating brands and packaging buyers project their digital label volume procurement will increase more than 10% in 2020 and half of participating companies predict their digital label procurement will increase more than 5% in the coming year. No companies indicated that they predict their digital label procurement volumes would actually *decrease* in 2020.

As the FINAT RADAR Brand Owner Survey asked participants to project label sourcing volumes for the coming year in both the most recent survey in addition to last year's survey, we can chart the general optimism of companies as they predict how much their label-purchasing volumes will be changing. The table below shows companies' label procurement projections for all labels compared to digital labels for 2018 (what companies were projecting for 2019) and the most recent survey (what companies are projecting for 2020).

Once again, these data suggest brands and packaging buyers are approaching overall label procurement for the coming year more cautiously compared to the results from the survey one year ago. Projected year-over-year label procurement growth for all types of labels is down nearly one percent from last year whereas projected digital sourcing volumes have increased by 1.5%. This is the sharpest increase we have seen for projected volume sourcing growth for digital labels from the RADAR Brand Owner Survey results.

Clearly, while companies are projecting overall downward growth in label procurement sourcing volumes, for their digital label consumption needs they are predicting a marked increase in sourcing volumes for 2020. Perhaps this further reinforces the assumption that digital label production is growing at the expense of conventional label production across end-use verticals and that while digital truly was once a complementary technology to conventional printing on converter's production floors digital can now firmly be qualified as a replacement technology.

CHARTING PROJECTED LABEL PROCUREMENT GROWTH: ALL LABELS VS. DIGITAL LABELS				
	2018 Survey (projected procurement for 2019)	2019 Survey (projecting procurement for 2020)		
All Labels	Projected 3.9% growth	Are projecting 3.0% growth		
Digital Labels	Projected 6.3% growth	Are projecting 7.8% growth		

Section 2

VOICE OF THE BRAND OWNER: THE DYNAMIC BETWEEN THE LABEL BUYER AND THE LABEL CONVERTER

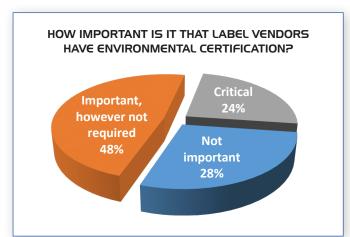
Sourcing labels from other regions, the importance of label converters having environmental certification and required lead times for existing label orders and new label orders.

The second section of the 2019 FINAT RADAR Brand Owner Survey asked participants about different aspects of their business relationships with their label vendors. Our goal with this section of the survey is to offer a snapshot that allows label converters to gain insight into how they are currently doing in the eyes of their customers. Are lead times adequate? How much of an advantage is it for label converters to have some type of environmental certification? In this market of increased consolidation among label converters, how important is it to brands that their label suppliers have more than one production facility? Asking these questions allows us to present FINAT members with a current state of the market analysis that digs deeper into the dynamic between the label buyer and the label manufacturer.

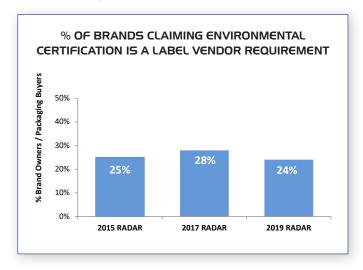
The first question in this series asked survey participants to indicate the importance of their label suppliers having some type of environmental certification. Companies were given a group of responses and were asked to choose one from the following:

- It is vital. We only purchase labels from companies that are environmentally certified.
- It is becoming more and more important and I predict that in the near future we will only purchase labels from companies that are environmentally certified.
- It is important but does not indicate who we do or do not purchase labels from.
- It is not important to us currently and does not have an influence over the label suppliers we use.

The chart below indicates a breakdown of the percentage of participating brands and packaging buyers choosing each response.



Nearly one in four label vendors indicated that it is vital that their label vendors are environmentally certified and only purchase labels from companies with certification.



Are label buyers becoming more demanding when it comes to their suppliers having some type of environmetal certification? According to the RADAR data, the answer to this question is no. Since the RADAR's inception, the Brand Owner Survey has been asking partipants to indicate how important environmental certification is for their label vendors.

In 2015, 25% of participants indicated it is 'vital' and that their companies would only purchase labels from environmentally certified label suppliers. In 2017 28% respondended the same, however this year 24% respondend that it was vital their label vendors have some type of environmental certification. In taking a closer look at the data from this year's survey those companies responding 'vital' primarily serve the following end-use verticals:

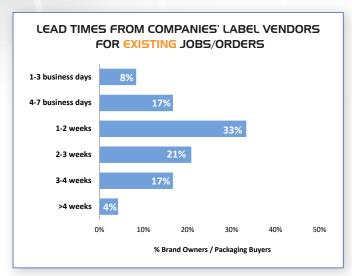
- Food
- Beverage
- Pharmaceuticals

LABEL DELIVERY TIMES

Brands and packaging buyers across end-use categories are still stressing the need for faster turnaround times for their printed packaging. As identified in the previous section, the ability to achieve fast turnaround times is one of the most significant drivers of companies sourcing digitally printed labels. During qualitative interviews, a number of companies stressed that expedited delivery times was a significant factor in the projected growth of

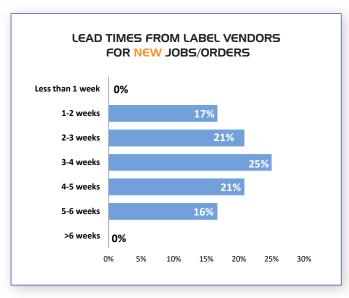
digital label sourcing volumes. Pipeline expediency with new marketing designs and directives remains a high priority with label buyers and is one that brands mention repeatedly in discussions.

The Brand Owner Survey asked companies to indicate what their current lead times are for labels for both existing jobs and new jobs. The following graph breaks down companies' average lead times for labels for existing jobs.



Fifty-eight percent of respondents report their average lead times for existing jobs are currently two weeks or less while 42% of respondents indicate it takes longer than two weeks to receive their labels for existing orders. Twenty-one percent of respondents claim it takes longer than three weeks to receive printed labels for existing jobs. This breakdown of reported lead times is fairly similar to what was reported in last year's RADAR Brand Owner Survey. This will be another interesting RADAR index to develop moving forward as digital press adoption continues to rise and converters replace more conventional jobs with digital technology.

Following on from this question, participants were also asked to indicate lead times for new jobs. The graph below shows breaks down their responses.



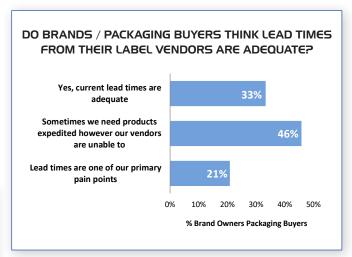
For new jobs, 63% of respondents indicate their average lead times are less than four weeks while 37% report their lead times for new jobs are currently four weeks or more.

AVERAGE LEAD TIMES FOR LABELS: EXISTING JOBS AND NEW JOBS		
Existing Jobs	14 business days	
New Jobs	14 business days	

Note: Lead times include both digital and conventional labels

The average lead time for existing jobs is currently 14 business days while the average lead time for new jobs is currently 24 days. Interestingly, last year's survey indicated that average lead times for existing jobs was 13 business days, nearly the same as this year's survey data. However in last year's survey the average lead times for new jobs was 27 days compared to 24 days as indicated by participants this year. Could brands be putting increased pressure on label converters for expedited delivery for new jobs? The data indicate this may very well be the case and it will be interesting to gauge next year's results as a comparison.

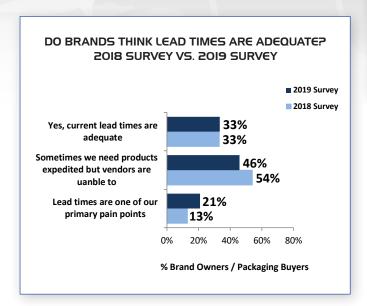
Following the questions about label delivery times for existing and new jobs, companies were then asked if these delivery times were adequate. The chart below shows companies' responses.



As with last year's survey, exactly one-third of respondents state that the amount of time it takes for them to receive labels from their vendors is sufficient.

Nearly half of participating companies state that current lead times are adequate for the most part, however there are times they need products faster and their label vendor, or vendors, are not able to meet these requests. The highest represented end-use verticals for companies indicating that their label suppliers are not delivering labels within a sufficient time frame were the pharmaceutical, food and personal care / health and beauty sectors.

In asking this question in two consecutive annual surveys, we can compare and contrast companies' responses to find out if lead times are a growing concern for brands and packaging buyers or if their label vendors are able to better meet their needs given the increased adoption rates of digital and hybrid presses. The following graph shows a breakdown of companies' responses for the 2018 RADAR Brand Owner Survey against this year's results.

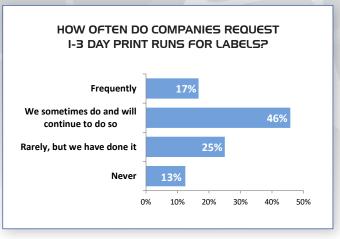


In comparing this year's survey results with those of last year, it is evident that lead times for label jobs is a pain point for brands and packaging buyers that is becoming increasingly significant. In last year's survey, 13% of companies indicated that lead times are a primary pain point when it comes to the delivery time frames of their label jobs. In this year's survey, 21% of companies indicated that lead times are a primary pain point.

It is interesting to consider that while more companies are indicating a major concern for lead times coming from their label vendors, this year's survey results at the same time show that lead times for new label jobs have been shortened by more than 10% (average lead times for new jobs in 2018 was 27 days while this year's survey indicated that average has been shortened to 24 days). In other words, even though it appears that lead times for new jobs are decreasing (whereas lead times for existing jobs are essentially the same year over year), this area is becoming a more critical issue for a higher number of brands and packaging buyers.

The RADAR Brand Owner Survey will continue to ask this question moving forward in an effort to closely track brands' perception of how quickly label converters are fulfilling and delivering orders for both new and existing applications.

One additional area the RADAR survey probed was the frequency at which companies are requesting one to three day 'rush' print runs/jobs from their label vendor(s). As digital print technology expands its presence on the production floors of label converters, it's important that FINAT members have access to real-time data in terms of the requirements label buyers are placing on their label suppliers. The following graph shows companies' responses.

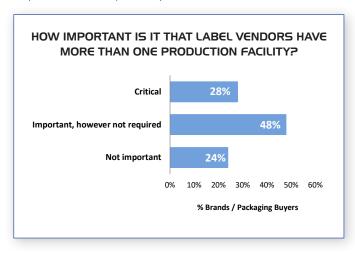


Note: Numbers do not add up to 100% due to rounding

Seventeen percent of participants state that their companies frequently request one to three day 'rush' deliveries from their label vendor(s) while nearly half of participants indicate that this is more of an occasional request and will continue to be so. We will continue to track the demand for rush deliveries moving forward in order to effectively gauge if this is an increasing requirement.

LABEL VENDOR PROXIMITY AND DO COMPANIES WANT THEIR LABEL SUPPLIERS TO HAVE MORE THAN ONE FACILITY?

Once again, one of the questions in the FINAT RADAR Brand Owner survey asked companies how important it is that their label suppliers have more than one manufacturing facility. We continue to witness consolidation in our industry at every level of the value chain, however do brands and packaging buyers actually demand that their label vendors have more than one label manufacturing plant? The graph below shows a breakdown of how companies responded to this important question.



Twenty-eight percent of participating brands and packaging buyers demand that their label suppliers have more than one production facility while 48% of companies claim it is 'important', but not a requirement. It's important to note that in last year's survey, just 15% of participants indicated it was 'critical' that their label vendors have more than one production facility. Is this jump in the number of companies demanding multiple label vendor

locations a trend or is it just a one-time increase and next year's survey will perhaps indicate a decrease in this requirement? Time will tell, however it is a critical vendor specification that the FINAT RADAR will continue to track so that we can present a year-over-year index to FINAT's converter and supplier members.

The final question in the RADAR Survey asked companies to comment on the motivation behind specifying one print process over another for printed labels. In asking this question, we wanted to hear from brands and packaging buyers directly about the drivers that might influence their purchasing decisions when deciding whether to print a certain product's label flexo, offset or digital. Interestingly, the responses to this question were nearly always a variation on the same themes. Below you will find the primary drivers companies cited behind specifying certain print processes, from the most mentioned as the first criteria listed, the second as the second most criteria mentioned, etc.

For brands and packaging buyers, what is the motivation behind specifying certain print processes for their printed labels?

- Highest achievable quality for best price Example repeatedly noted: Flexo over offset.
- Delivery speeds / lead times
 Example repeatedly noted: Digital over flexo and offset.
- Run size demands / ability to order smaller MOQs (minimum order quantities)

Example repeatedly noted: Digital over all other print processes due to small batch volumes becoming more common and companies not having to throw way expired labels sitting in inventory.

Flexibility

Examples noted: Flexo over offset and digital (excluding hybrid) due to the process' ability to incorporate enhancements like screen and foil stamping all in one pass for a more economical price than offset.

Section 3

LABELSTOCK GROWTH PER EUROPEAN REGION

%Change Compared to Prior Year: Paper and Film Roll Labelstocks: Q3 2019 vs. Q3 2018

In each issue of the FINAT RADAR we report on year-over-year material growth by comparing the volume sales of different types of roll labelstocks for one quarter, with the same quarter the previous year. In this issue we are comparing the third quarter of 2019 performance with the third quarter of 2018 performance for the volume sales of self-adhesive labelstocks. Publishing this data as part of the FINAT RADAR offers readers an important glimpse into the volume sales of self-adhesive papers and films in each major European region.

These data are taken from submitted input from the quarterly FINAT Labelstock Statistics Report. Average growth for the third quarter of 2019 compared to the third quarter of 2018 for European paper labelstocks was 3.5%; while average growth for European film labelstocks was 3.9%. Quarter over quarter paper growth was driven by the high growth rates in Southern Europe and Eastern Europe while quarter over quarter film growth was driven by the spike in Southern Europe's consumption in Q3 2019. It's important to note however that the accrued volume

data comparing Q1-Q3 in 2019 with Q1-Q3 in 2018 paints a more modest picture with just 1.6% volume growth for the same three-quarter period year over year for all roll labelstocks.

Roll paper labelstock growth was once again driven by increased demand for direct thermal, up 5.1%. Roll film growth was driven by PP with growth up 4.5% while PE volume change for Q3 2018 compared to Q3 2019 was up 3.9%.

