FINAT
Linking the Label Community

REPORT & ANALYSIS:

THE EUROPEAN NARROW WEB MARKET

FINAT RADAR 10

2ND SEMESTER 2018

REPORT & ANALYSIS: THE EUROPEAN NARROW WEB MARKET

Dear Reader,

It is my pleasure to present you FINAT RADAR #10. As in previous years, this winter edition focuses on the end-user perspective. Once again our RADAR research partners of LPC have obtained the input from over 80 brand-owners from different backgrounds in the European market space.

Respondents were surveyed on matters like label purchasing volume growth projections, label vendor loyalty, migration from self-adhesive to other label formats, linerless labels, the most important factors brands consider for printed packaging decoration, as well as the possibility of brands printing labels in-house. This edition will enable you to compare trends in the procurement of labels and packaging solutions provided by the self-adhesive and narrow web converting industry.

As reported at the European Label Forum last June, and in the FINAT 60th anniversary Yearbook published last month, roll labelstock demand has become a significant indicator of macro-economic (GDP) development and it will be interesting to read to which extent this year's brand-owner perspectives reflect the uncertainties associated with Brexit, global trade disputes and political uncertainties in the Eurozone.

FINAT's 60th anniversary year 2019, which commenced on 7 November, promises to be another exciting vintage culminating in our annual European Label Forum in Copenhagen next June and Labelexpo Europe next September, where we will present the winners of the #LABELicious competition which in fact was triggered by findings from this RADAR report series, confirming one of the major challenges of our industry today: recruiting and retaining young talent. It is FINAT's firm intention to continue monitoring facts, trends and opinions relevant to strategic decision making for the label industry of tomorrow!

Chris Ellison
FINAT President

Researched and compiled by LPC, Inc.

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TABLE OF CONTENTS

Scope of the Report 4

SECTION I: BRAND OWNER VIEWPOINT: LABEL PROCUREMENT GROWTH AND MARKET TRENDS 5

- Chart: End-use categories served by participating brand owners
- Chart: Brand owner participation by European region
- Chart: Brand owner participants by job function

Will brand owners be buying more labels? Projection volumes for 2019 6

- Chart: Brand owners' label volume purchasing projections for 2019
- Chart: Brands predict label volume growth – all of Europe
- Chart: Will brands be migrating away from self-adhesive in the coming year?
- Chart: % of companies indicating some of their products migrating from self-adhesive to shrink sleeves
- Chart: Decoration migration projections 2018 (from 2017 survey) vs. 2019

Brand owners and the procurement of digitally printed labels 7

- Chart: Are brand owners making the ability to print digital labels a vendor requirement
- Chart: Charting projected label procurement growth: all labels vs digital labels

Linerless labels. Key factors in label decoration and the prospect of brands and packaging buyers bringing the printing of their labels in-house 8

- Chart: Are companies using linerless labels
- Chart: What do brands consider to be the most important factors related to decorating their products?
- Chart: will digital label production move in-house for participants?

SECTION 2: VOICE OF THE BRAND OWNER: THE DYNAMIC BETWEEN THE LABEL BUYER AND THE LABEL CONVERTER 10

- Chart: What additional services do brands want from their label suppliers?

Label delivery times 10

- Chart: Lead times from label vendors for existing jobs
- Chart: Lead times from label vendors for new jobs
- Chart: Average lead times for labels existing jobs and new jobs
- Chart: Do brands/packaging buyers think lead times f rom their label vendors are adequate?

Label vendor proximity and do companies want their label suppliers to have more than one facility? 11

SECTION 3: LABELSTOCK GROWTH PER EUROPEAN REGION 13

- Chart: Change compared to prior year - Roll paper labelstocks: Q1-Q3 2018 vs. Q1-Q3 22017
- Chart: Change compared to prior year – Roll film labelstocks: Q1-Q3 2018 vs. Q1-Q3 2017

SECTION 4: NEW INDEX: EUROPEAN DIGITAL PRESS SALES 14

- Chart: European digital press sales bij price point: Q1-Q3 2018

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SCOPE OF THE REPORT

What do the buyers and users of labels want? This question is constantly driving the business strategies and initiatives of European label converters and industry suppliers. This question was also at the center of FINAT's most recent RADAR Brand Owner Survey.

More than 80 companies participated in this year's survey and there were a number of important questions we asked these companies for the first time as we dug deeper into the dynamic between the label buyer and the label manufacturer. For example, how do brand owners and packaging buyers rank the additional services that label converters might offer? How important are things like the ability to order labels online and vendor-managed inventory programmes to these companies? In this age of increased consolidation at all levels of the value chain, from the brand owner's viewpoint how important is it that their label suppliers have more than one production facility? Are current lead times for labels sufficient? These are some of the questions the FINAT RADAR survey asked companies and were also topics discussed in more detail during qualitative interviews with packaging engineers, label procurement personnel and R&D managers.

One takeaway from the recent survey was clear. Brand owners and packaging buyers are approaching 2019 more cautiously than they did 2018. Projected label purchasing volumes are lower than they were one year ago, both for conventional and digital labels. The market tensions and more erratic landscape of the current global economy is creating more uncertainty and caution in these companies than we have seen since the inception of the FINAT RADAR report. However, it's important to note, that the majority of brand owners and packaging buyers still foresee their label purchasing volumes growing in 2019, although we also see more hesitancy to migrate from self-adhesive to other types of label decoration formats. Brand ownerswant to stay with the status quo as they wait and see how the economic landscape will unfold in the coming year.

In closing, we are very pleased that these companies continue to participate in the FINAT RADAR Brand Owner Survey. Their voices and the willingness to share information is at the foundation of the work we do in putting together this edition of the RADAR. A packaging engineer at one of Germany's largest snack and condiment companies said it well during an interview, *"Perhaps it is more important than ever that the market has access to research so that label converters understand what their customers and prospects are thinking, and what drives us to make certain decisions and pursue different directions."*

Sincerely,
LPC, Inc.

Section 1

BRAND OWNER VIEWPOINT: LABEL PROCUREMENT GROWTH AND MARKET TRENDS

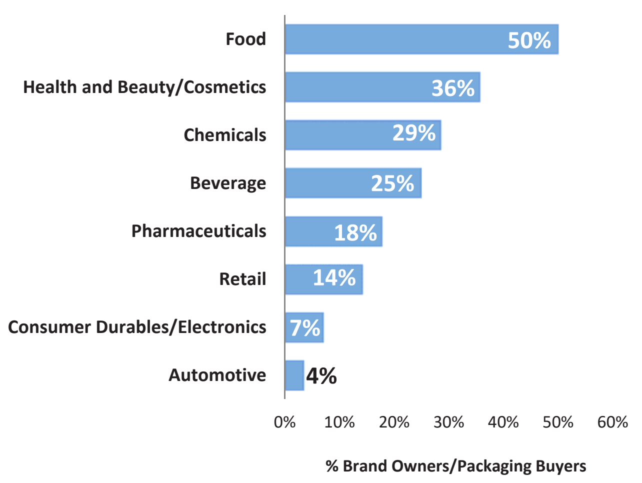
Label purchasing volume growth projections, label vendor loyalty, migration from self-adhesive to other label formats, linerless labels, the most important factors brands consider for printed packaging decoration, and the possibility of brands printing labels in-house.

More than 80 brand owners and packaging buyers participated in the 2018 Brand Owner Survey for this edition of the RADAR and a select group of additional companies agreed to extensive one-on-one interviews. Survey participants either directly source labels, or 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 65-70% of the same brand owners participate year after year. In this most recent survey, among first-time respondents were a beverage division of Nestlé, industrial chemicals companies in Germany and the Netherlands, an automotive manufacturer in Northern Europe, a wine and spirits company in Spain and a regional food company in Eastern Europe.

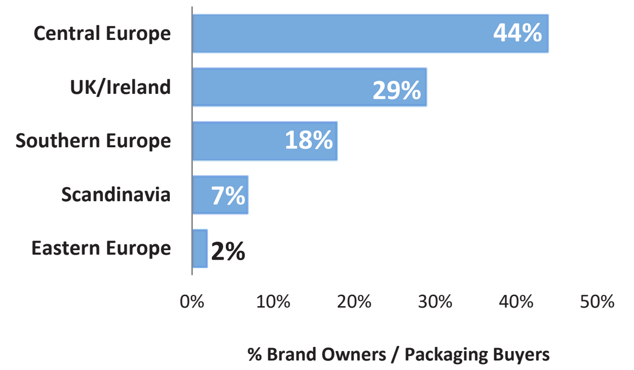
The central objective in surveying brand owners is that companies of every size – from multinational conglomerates to smaller, regional brands – participate and that the majority of end-use labelling categories are represented. The graph below indicates a breakdown of brand owner participation per end-use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

END-USE CATEGORIES SERVED BY PARTICIPATING BRAND OWNERS



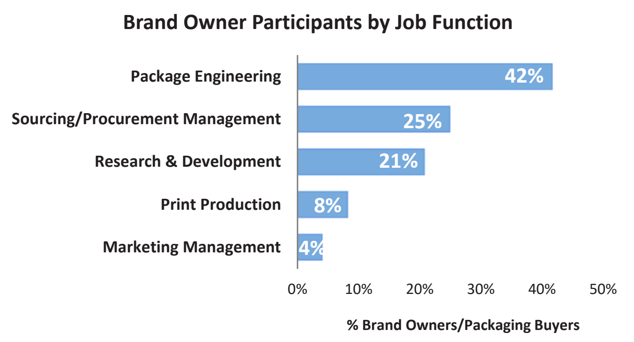
At the request of the FINAT Board, in the FINAT RADAR moving forward we will also specify the percentage of brands that participate by European region. The graph below breaks down brand owner participation by facility location.

BRAND OWNER PARTICIPATION BY EUROPEAN REGION



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 chart shows participation by specific job function.

BRAND OWNER PARTICIPANTS BY JOB FUNCTION

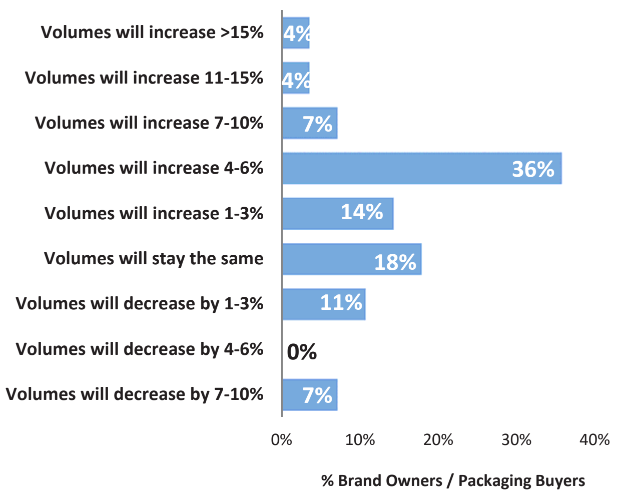


As in the past, the largest group of survey participants includes employees within package engineering departments. It's important to note that these respondents are directly involved in analysing labelling performance in existing production lines and the impact of label constructions on the application 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.

WILL BRAND OWNERS BE BUYING MORE LABELS? PROJECTION VOLUMES FOR 2019

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 2019.

BRAND OWNERS' LABEL VOLUME PURCHASING PROJECTIONS FOR 2019



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

In the 2017 FINAT RADAR Brand Owner Survey, just 3% of companies indicated that the label volumes they purchase would decrease in the year ahead. The most recent RADAR Brand Owner Survey paints a different picture with 18% of companies indicating the volume of labels they source in 2019 would decrease compared to the previous year. In this year's Brand Owner Survey, 65% of participants stated their label procurement volumes would increase in the coming year while 83% of participants indicated their label procurement volumes would increase in the 2017 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 general market.*

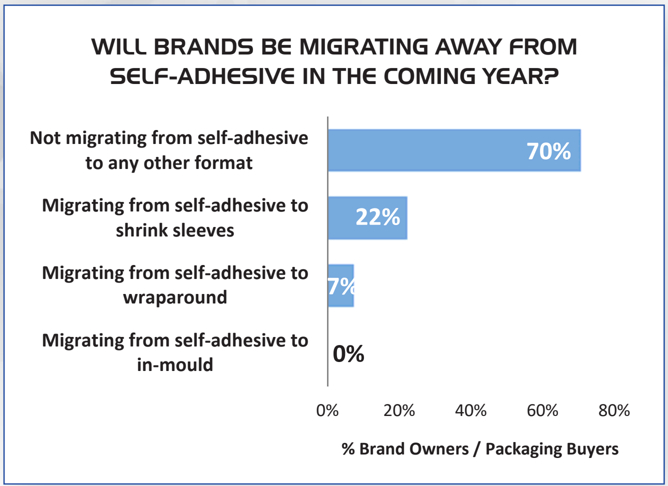
While we are witnessing declining levels of optimism for label sourcing growth for 2019 compared with last year's survey results, it's important to keep in mind that the *majority of participants are still indicating an increase* in year-over-year label sourcing volumes, and 15% of surveyed companies predict that their label sourcing volumes will increase by 7% or more.
The table below compares label volume sourcing projections for 2017 and 2018.

BRANDS PREDICT LABEL VOLUME GROWTH – ALL OF EUROPE

Average Label Procurement Volume Projected Increase for 2018* (from last year's survey results)	4.79%
Average Label Procurement Volume Projected Increase for 2019*(from this year's survey)	3.9%
% Brand Owners Indicating Label Procurement will Increase in 2019	65%
% Brand Owners Indicating Label Procurement will Stay the Same in 2019	18%
% Brand Owners Indicating Label Procurement will Decrease in 2019	18%

**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. 2018 projections were from the RADAR 2017 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 would 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 below breaks down participants' responses.

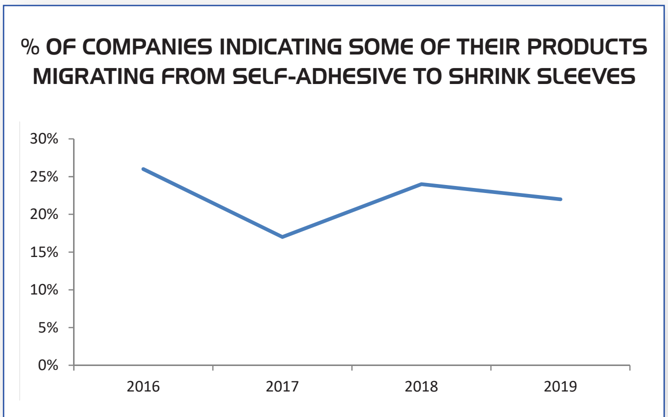


Note: Numbers do not equal 100% due to rounding.

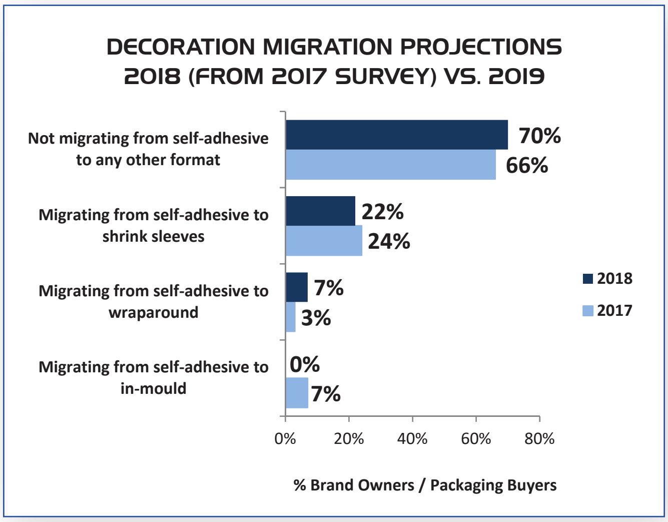
Seventy percent of surveyed companies indicated that they will **not** be migrating away from self-adhesive to other decoration methods for any of their products in 2019, an increase compared to companies' projections from last year's survey. Twenty-two percent of respondents indicated that they would be migrating from self-adhesive labelling to shrink sleeves for some applications *while not one participant in this year's survey 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:

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

Shrink Sleeves: Decoration Fad or still a Growing Trend?
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 below 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 2016 when 26% of brands and packaging buyers indicated some of their applications would migrate compared to 17% of companies indicating the same in the 2017 survey and 24% in last year's survey. Interestingly, not one company indicated migration from self-adhesive to in-mould labels in the coming year while 7% of companies indicated the in-mould migration in last year's survey. The following graph compares companies' projected label decoration migrations for this year and last year.

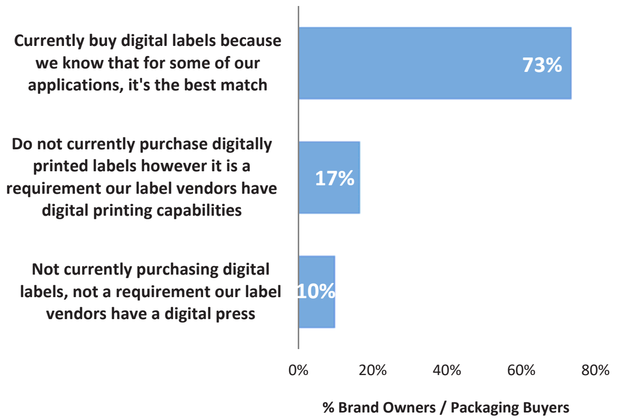


Interestingly, while we see a decline in shrink and in-mould migration year over year, there was an uptick in non-shrink wraparound (non self-adhesive) migration with 4% more brands indicating this migration will occur with some of their products in the coming year. One possible reason as to why we are seeing these companies indicate a tendency to remain with the status quo (self-adhesive) and less movement toward new decoration formats, is the general consensus and outlook that 2019 will be a year of decelerating recovery in Europe compared to the region's more robust growth in 2018.

BRAND OWNERS AND THE PROCUREMENT OF DIGITALLY PRINTED LABELS

One important market force the FINAT RADAR examines closely every year is how much brand owners are actively mandating the supply of digitally printed labels from their printed packaging vendors. As we discussed in last year's brand owner edition of the RADAR, while SKU proliferation, decreasing run sizes and the ability to personalise continue to drive digital press adoption rates some brands remain hesitant about moving some of their applications to digital due to colour matching uncertainty and the inevitable changes in supply logistics that sourcing digitally printed smaller job sizes brings.
This year's FINAT RADAR Brand Owner Survey once again asked surveyed companies if they currently source digitally printed labels and the following graph shows brand owners' responses.

ARE BRAND OWNERS MAKING THE ABILITY TO PRINT DIGITAL LABELS A VENDOR REQUIREMENT?



Nearly two-thirds of all survey participants are currently sourcing digital labels while 17% of participants are not buying digital labels for their products however they demand that their label converters have digital printing capabilities on the production floor. These companies state that even though they do not source digital labels, they want to ensure that their label suppliers have the ability to print digitally if, or more likely when, they have a requirement that is best fulfilled with digital printing's specific advantages (smaller job sizes, personalization, etc.).
Compared to the survey results from 2017, there is minimal year-over-year change in participants' responses to this question. While 17% of companies in this year's survey indicating they do not purchase digital labels yet demand their label vendors have digital print technology on the production floor, 13% of companies in the 2017 survey indicated the same. The percentage of companies indicating they do not currently purchase digital labels and do not require their label vendors to have digital presses was nearly the same in 2017 and 2018.

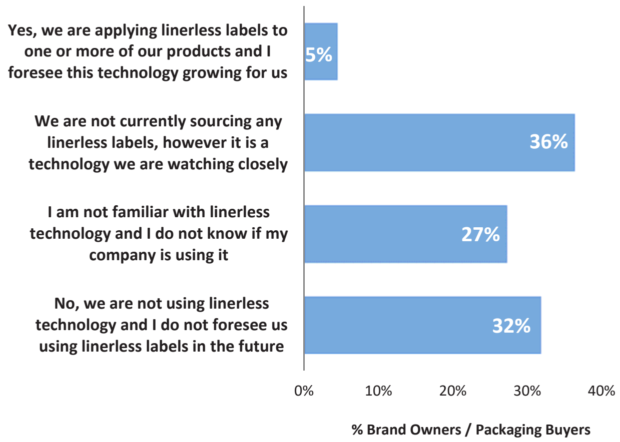
As the FINAT RADAR Brand Owner Survey asked participants to project label sourcing volumes for the coming year in both the most recent survey in addition to last year's survey, we can chart the general optimism of companies as they predict how much their label-purchasing volumes will be changing. The table below shows companies' label procurement projections for all labels compared to digital labels for 2017 (what companies were projecting for 2018) and the most recent survey (what companies are projecting for 2019).

This data suggests brands and packaging buyers are approaching label procurement for the coming year more cautiously compared to results from a year ago. *Projected year-over-year label procurement volumes for all types of labels is down 9% from last year and digital is down 7%.* We can also see that digital label procurement growth hovers at 2.2-2.4% above label sourcing growth rates for all labels (conventional and digital combined).

LINERLESS LABELS, KEY FACTORS IN LABEL DECORATION AND THE PROSPECT OF BRANDS AND PACKAGING BUYERS BRINGING THE PRINTING OF THEIR LABELS IN-HOUSE

With continued pressure on the label-printing industry to develop sustainability solutions for waste materials, particularly in the areas of matrix and liner waste, an objective of the survey was to ask companies about current utilization of linerless labelling. Companies were asked to indicate if they currently use linerless technology and, if not, if their company is presently considering it for future use. The graph below breaks down companies' responses.

ARE COMPANIES USING LINERLESS LABELS?



Just 5% of surveyed brands and packaging buyers are currently using linerless technology for their products and all of the companies that indicated they are using linerless presently serve different segments within the food sector. While this is a small percentage, *it's important to note that more than one-third of*

CHARTING PROJECTED LABEL PROCUREMENT GROWTH: ALL LABELS VS. DIGITAL LABELS

	2017 Survey (projected procurement for 2018)	2018 Survey (projected procurement for 2019)
All Labels	Projected 4.8% growth	Are projecting 3.9% growth
Digital Labels	Projected 7.0% growth	Are projecting 6.3% growth

respondents indicated that although they are not currently sourcing linerless labels, it is a technology their companies are watching closely for future implementation.

It is also interesting to note that 27% of participants indicated they are not familiar with linerless. Once again, the respondents who complete the RADAR surveys and participate in one-on-one interviews work in job functions that are somehow involved with label procurement, design, research and development, and/or engineering aspects of label decoration. We can conclude from such a high number of participants unfamiliar with linerless technology, that the development and benefit of linerless is a topic that needs to more effectively reach these companies at the top of the value chain. Companies require more education and it will be important to track the growth of linerless implementation as brands and packaging buyers become more informed.
In addition to gauging linerless use, the survey asked companies about the factors they consider the most important related to decorating their products. To answer this question, participants were given four criteria and were asked to rank them in importance from most to least important. The criteria that companies were asked to rank include:

- Supply (availability of products within adequate lead times)
- Logistics
- Regulation and compliance
- Recycling/sustainability

The table below shows how brands and packaging buyers ranked these criteria from most to least important.

WHAT DO BRANDS CONSIDER TO BE THE MOST IMPORTANT FACTORS RELATED TO DECORATING THEIR PRODUCTS?

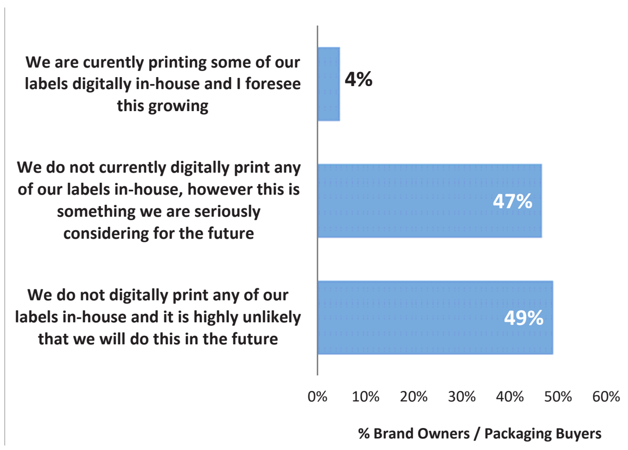
Supply	**#1 (most important)**
Regulation and compliance	**#2**
Recycling/sustainability	**#3**
Logistics	**#4 (least important)**

Companies ranked 'supply' as the most important factor related to decorating their products, indicating how much importance these companies place on turnaround times. Regulation and compliance was ranked as the second most important factor, followed by recycling and sustainability while logistics was placed last. Learning how companies rank these criteria could play a role in helping label converters fine tune their own messaging and the language they use in their marketing strategies. For example, understanding that packaging buyers rank lead times and regulation/compliance as the most important factors, converters can use this information to their advantage by ensuring these capabilities are featured in marketing and sales collateral, on converters' websites and in their social media campaigns.

From the survey, we know that brands place delivery times and converters' abilities to meet regulatory demands as top priorities when it comes to decorating their products. Perhaps this knowledge can offer converters a head start in creating strategies around messaging and promotions when trying to speak to new label-buying prospects.

For the first time the FINAT RADAR Brand Owner Survey asked brands and packaging buyers about the possibility of these companies bringing label-printing in-house. This question was included in this year's survey for several reasons. As the adoption of digital presses steadily increases and the ease-of-use of these press systems improves, are more brands considering the implementation of digital printing in-house? If so, do we see this as a possible trend in some end-use categories more than others? The chart below indicates how brands and packaging buyers currently view the possibility of bringing their label production in-house.

WILL DIGITAL LABEL PRODUCTION MOVE IN-HOUSE FOR PARTICIPANTS?



This chart illustrates an eye-opening picture. Only 4% of companies are currently printing some of their label applications in house while *47% of participants indicated that even though they are not currently digitally printing any of their labels in house, it is something they are seriously considering for the future*. This is an important area that the FINAT RADAR will continue to examine more closely in order to report back to the association's membership in the future.

Companies indicating that bringing digital label-printing capabilities in-house is something they are seriously considering for the future primarily serve the following end-use categories:

- Household chemicals (**highest** rate of interest to bring digital label printing in-house)
- HABA/personal care (**second highest** rate of interest to bring digital label printing in-house)
- Food (**third highest** rate of interest to bring digital label printing in-house)
- Beverage (**fourth highest rate** of interest to bring digital label printing in-house)

Section 2

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

Additional services brands and packaging buyers want their label suppliers to offer, the importance of a label supplier's location and required lead times for existing label orders and new label orders.

The second section of the 2018 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 was to offer a snapshot that allows label converters to gain insight into how they are doing currently in the eyes of their customers. Are lead times adequate? Are there additional services brands would like to see their label suppliers offer? 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 label buyer and label manufacturer.

The first question in this series asked survey participants to rank a set of criteria from most to least significant. The criteria were all examples of additional services that label converters can/do offer (services beyond just the printing of labels). The criteria that brands and packaging buyers were asked to rank include:

- Artwork design (label converters offering the capability to take over this function for new labels)
- Online ordering (ordering labels through a label converter's website)
- In-house platemaking (the ability to make plates in-house versus using a service bureau)
- VMI (offering vendor-managed inventory services)

The table below shows how survey participants ranked these criteria from most to least important.

Companies ranked the ability for label converters to take over some, or all, aspects of artwork design as the most significant additional service their label vendors do/could offer. Taking a closer look at the data, companies that ranked artwork design as the most significant additional service primarily serve the following segments:

- Household chemicals
- Industrial chemicals
- Beverage (particularly the craft beer, spirits and specialty drinks categories)
- Pet food
- General food (particularly smaller, regional snacks and condiment companies)

It's important to note that while a number of label converters are dedicating resources to creating website portals that allow for the ordering of labels online, out of all the criteria given survey respondents ranked the ability to order labels online as the least significant service. This certainly isn't to say brands do not find this unimportant, however it is interesting to consider that the other criteria were ranked higher.

LABEL DELIVERY TIMES

Brands and packaging buyers across end-use categories express the need for faster turnaround times for their printed packaging. During qualitative interviews, survey participants talked about the issue of labels becoming obsolete before they are applied to their products. Companies are indicating that there are more forces in the market than ever before that lead to label obsolescence.

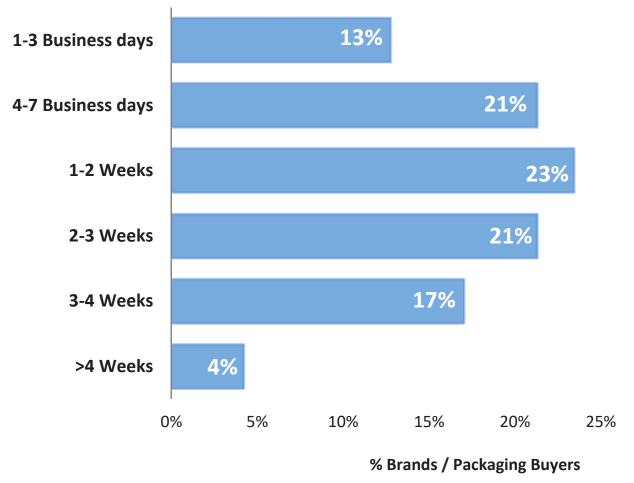
WHAT ADDITIONAL SERVICES DO BRANDS WANT FROM THEIR LABEL SUPPLIERS?

Artwork Design	#1 (most significant)
In-house platemaking	#2
VMI (vendor-managed inventory)	#3
Ability to order labels online	#4 (least important)

Some of the forces companies specifically referred to include regulatory and compliance requirements in addition to pipeline expediency with marketing directives and promotional strategies. Essentially, companies want their labels faster.

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.

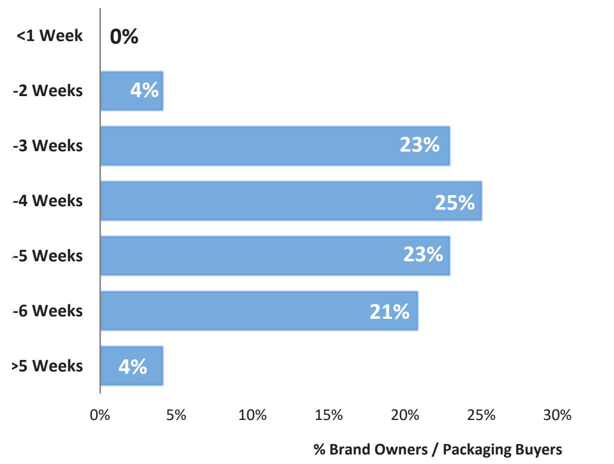
LEAD TIMES FROM LABEL VENDORS FOR EXISTING JOBS



Fifty-seven percent of respondents report their average lead times for labels for existing jobs are currently two weeks or less while 43% 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.

Following on from this question, the next graph indicates lead times for new jobs.

LEAD TIMS FROM LABEL VENDORS FOR NEW JOBS



For new jobs, 52% of respondents indiate their average lead times are less than four weeks while 48% report their lead times for new jobs are currently four weeks or more.

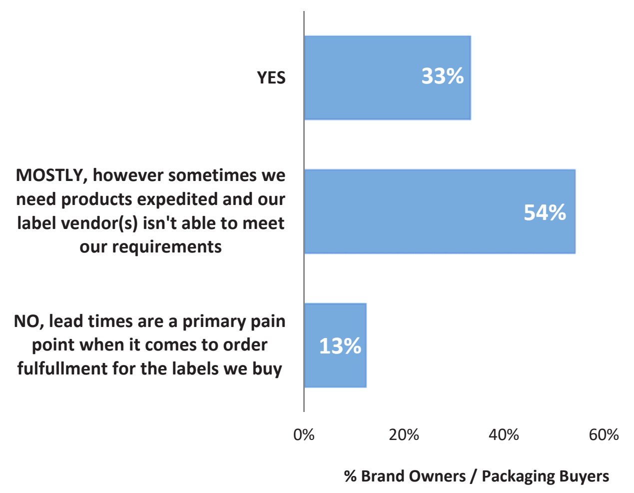
AVERAGE LEAD TIMES FOR LABELS: EXISTING JOBS AND NEW JOBS

Existing Jobs	13 business days
New Jobs	27 business days

Note: *Lead times include* ***both*** *digital and conventoinal labels*

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.

DO BRANDS/PACKAGING BUYERS THINK LEAD TIMES FROM THEIR LABEL VENDORS ARE ADEQUATE?



Exactly one-third of respondents state that the amount of time it takes for them to receive labels from their vendors is sufficient. Just over 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 vertical for companies indicating that their label suppliers are not deliverying labels within a sufficient time frame was the pharmaceutical sector.

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

Other areas the survey explored include label supplier proximity demands and the importance of label suppliers having more than one manufacturing facility. The label industry has long been considered a regional one – brands and packaging buyers have had a preference to purchase products from label converters within a certain distance to where the labels are being applied.

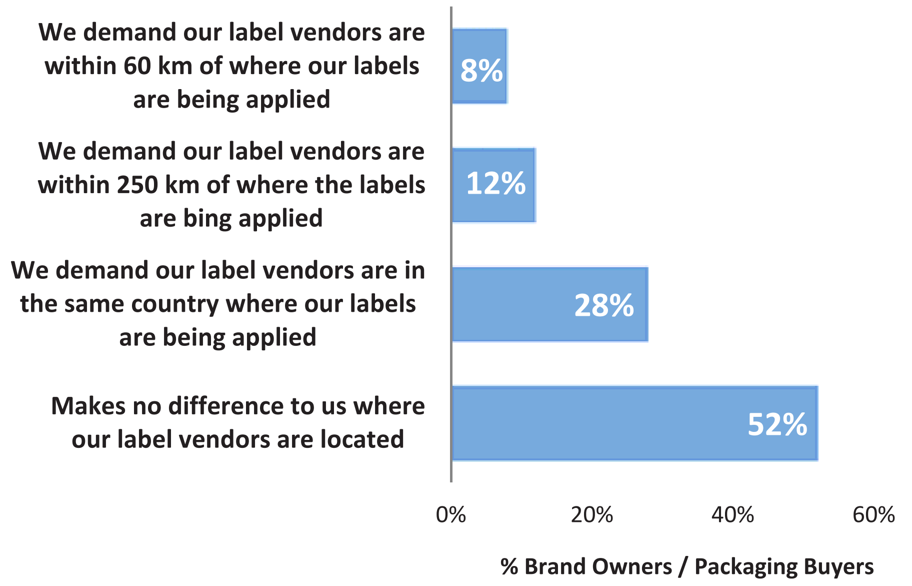
Is this still the case today? Companies' preferences are broken down graph on the right.

In looking at companies' responses, we can see the regionalization trend lessening. More than half of survey participants claim it makes no difference where their label vendors are located. Twenty percent of respondents demand their label suppliers are located within 250 kilometers of where the labels are being applied while 28% of respondents demand label vendors are located within the same country as point of application.

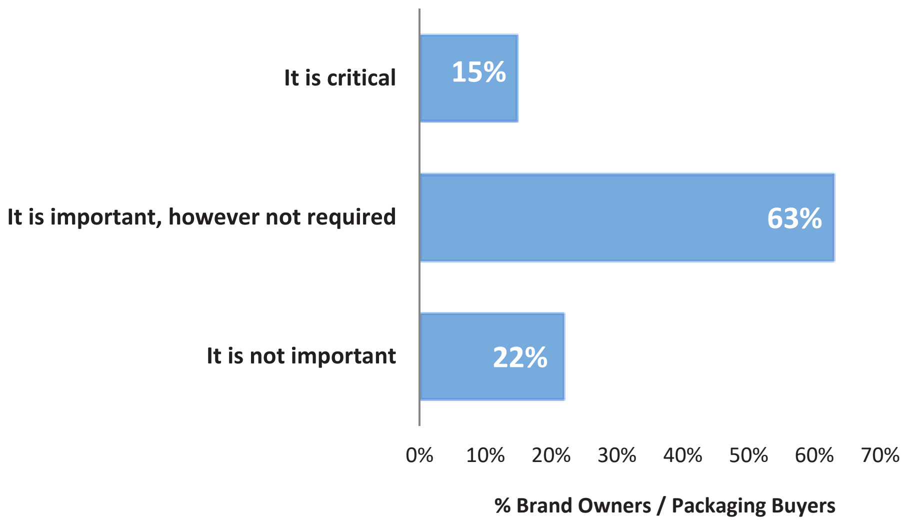
The final question in the FINAT RADAR Brand Owner survey asked companies how important it was that their label suppliers have more than one manufacturing facility. We have witnessed steady consolidation levels in our industry at every level of the value chain, however are brands and packaging buyers actually demanding that their label vendors have more than one label manufacturing plant? The graph on the right shows a breakdown of how companies responded to this important question that has never been asked before in any FINAT RADAR survey.

Just 15% of participating brands and packaging buyers demand that their label suppliers have more than one production facility. However, 63% of companies claim it is 'important', but not a requirement. This percentage is high. While one would assume that the largest brands require their label vendors to have more than one production facility, in examining the data more closely a number of small brands (craft food beverage companies and regional fast-moving consumer goods companies) state that it is 'important.' This is something the RADAR will continue to track as our industry further consolidates.

HOW IMPORTANT IS LABEL VENDOR PROXIMITY TO POINT OF APPLICATION?



HOW IMPORTANT IS IT THAT LABEL SUPPLIERS HAVE MORE THAN ONE PRODUCTION FACILITY?



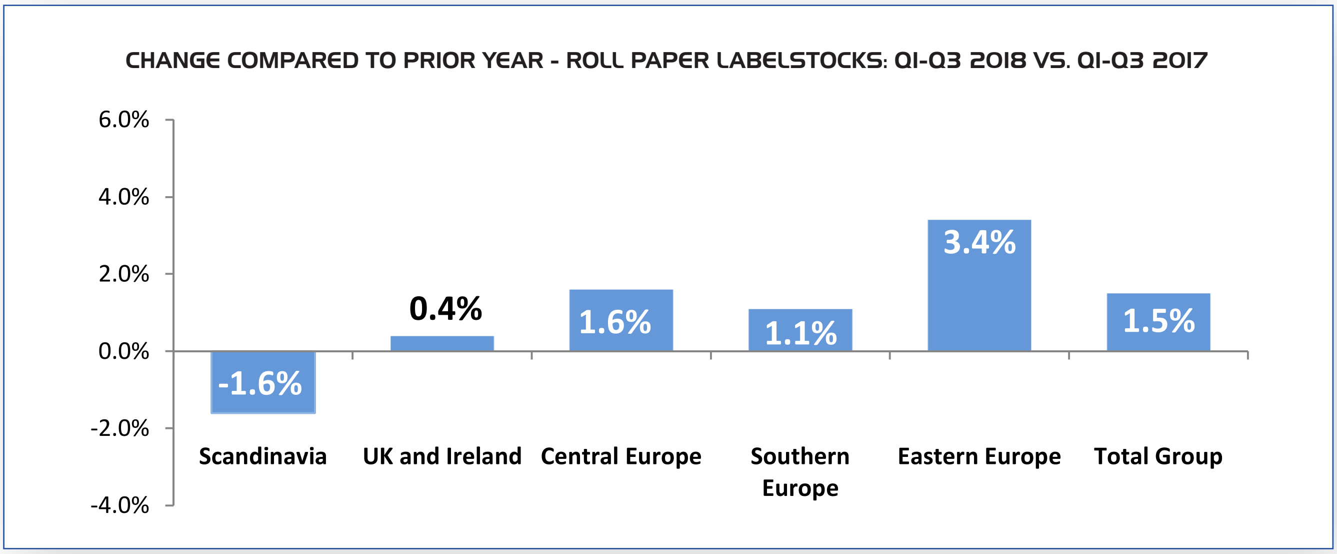
Section 3

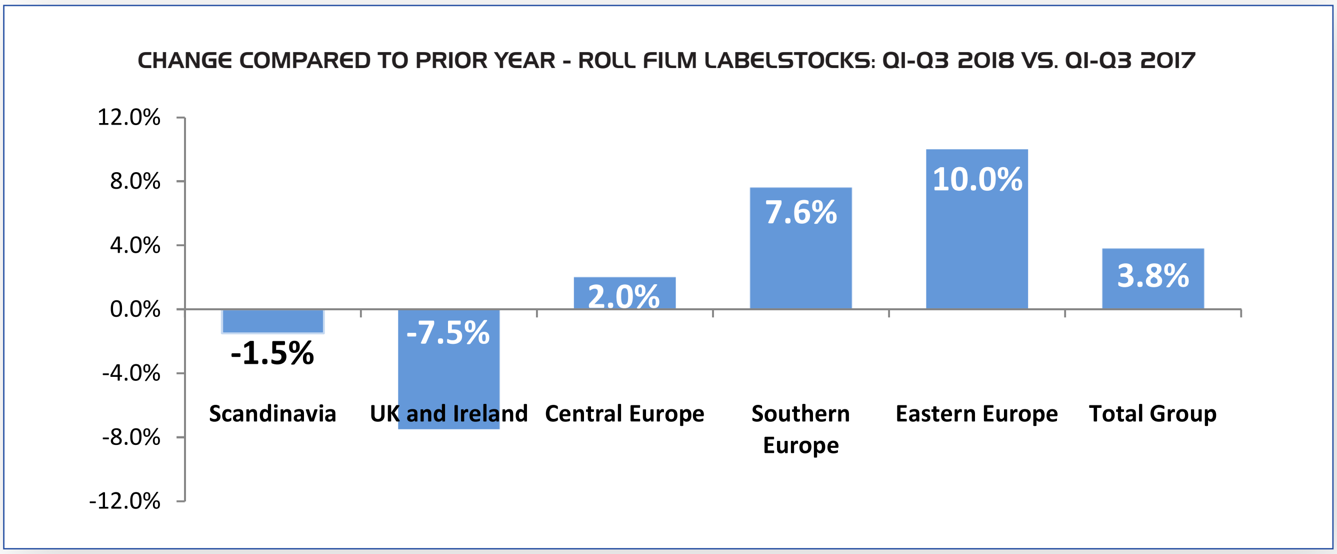
LABELSTOCK GROWTH PER EUROPEAN REGION

%Change Compared to Prior Year: Paper and Film Roll Labelstocks: Q1 - 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 however we're doing something slightly different. We are comparing the first three quarters of 2018 with the first three quarters of 2017. In essence we are comparing the growth, or contraction, from aggregated data from the first three quarters of this year with data derived from the first three quarters of last year.
These data are taken from submitted input from the quarterly FINAT Labelstock Statistics Report. Average growth (Q1-Q3 2018 compared to Q1-Q3 2017) for European paper labelstocks was 1.5%; while average growth for European film labelstocks was 3.8%.

Roll paper labelstock growth was once again driven by increased demand for direct thermal, up 3.2%. Roll film growth was again driven by PP with growth up 5.2% while PE growth for Q1-Q3 2018 compared to Q1-Q3 2017 was just 0.4%. The following graphs break down the percentage change for both labelstock types for each European region.





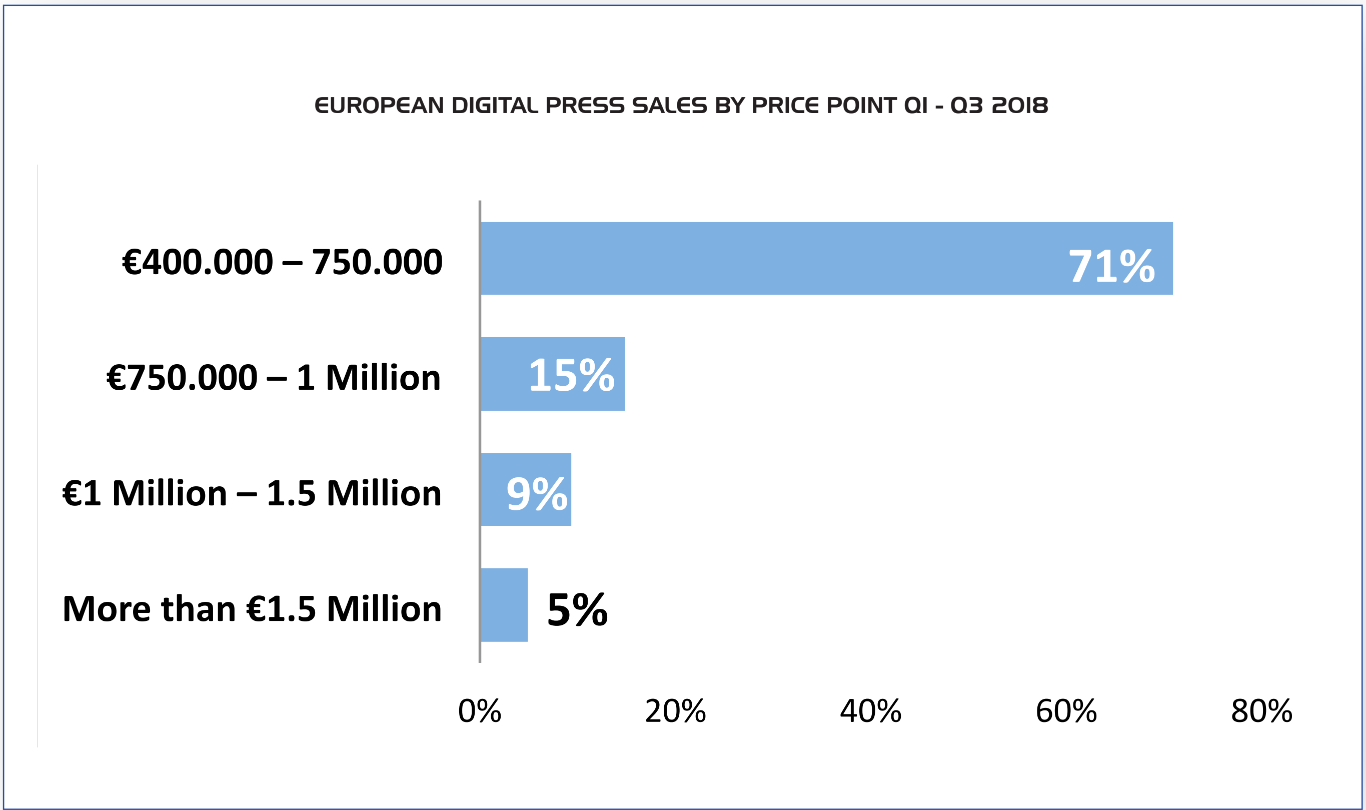
Section 4

A NEW RADAR INDEX: EUROPEAN DIGITAL PRESS SALES

Sales of Digital Presses Q1 – Q3 2018

In this issue of the FINAT RADAR, we have a new section – European Digital Press Sales. Moving forward, the RADAR will track the sales of presses into the European marketplace by working closely with digital press manufacturers to track their installations on a quarterly basis. The largest digital press suppliers participate in the RADAR Digital Index and together they make up more than 90% of the market.

As opposed to digital press data FINAT has collected in the past, this year's data received from digital press suppliers was slightly different in that we only asked for machine sales data for digital presses that sold for € 400.000 or more. This allows us a truer 'apples to apples' representation of the market for production toner and inkjet digital presses. **Press suppliers report that just over 190 digital presses were sold into the European market in the first three quarters of 2018 (once again, it's important to note that each of these presses carried a price tag of € 400.000 or more). The graph below breaks down the total press sales data by price point range.**



According to the supplier data, more than 70% of presses sold were within the € 400.000 - € 750.000 price range and 86% of all digital production presses sold were purchased by converters for € 1 million or less. Future editions of the RADAR will continue to track digital press sales in an effort to calculate year-over-year growth rates for digital systems and a breakdown of the different prices converters are spending on their digital presses.

FINAT – THE ASSOCIATION FOR THE EUROPEAN SELF-ADHESIVE LABELLING AND ADJACENT NARROW WEB CONVERTING INDUSTRIES