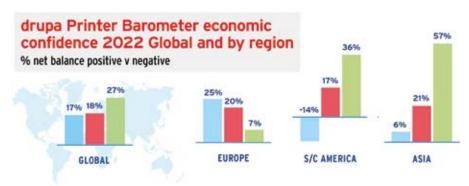
DRUPA'S EIGHTH GLOBAL TRENDS REPORT

Welcome to the 8th drupa Global Trends Report Executive Summary – a unique tracking tool for key economic and market developments across the print industry globally, regionally and within markets

After a two-year gap caused by Covid 19, which also meant the cancellation of drupa 2020 and forced drupa 2021 to be online, we are delighted to be back. With no opportunity to recruit fresh panel members at drupa 2020, we were not surprised to find participation levels fall. Nevertheless, we still have a unique global sample of over 500 panel members – both printers and suppliers – who very kindly gave us a detailed insight into how they had prospered through and since the pandemic and the other global and regional shocks that have occurred since.



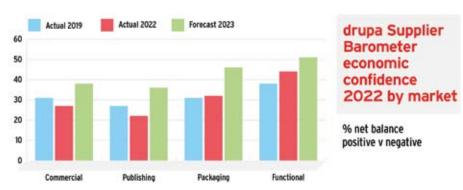
drupa printer barometer economic confidence 2022 global and regional

TRANSPARENCY

We circulated two separate surveys to printers and suppliers in April and May 2022. They share many questions, but ensure that their differing interests are addressed. With a smaller overall data set, we have been careful to be transparent in the report. It has

"The findings show that confidence levels are recovering across the globe as economic momentum builds post-Covid 19"

not drilled down into very small data sets and spells out where marginal data sets have been used. In this way, readers can decide for themselves how useful the findings are. We



drupa supplier barometer economic confidence 2022 by market

hope and expect participation numbers to climb again next year, as we start the buildup towards drupa 2024.

SURVEY FINDINGS

The findings show that confidence levels are recovering across the globe as economic momentum builds post-Covid 19. However, major socio-economic challenges lie ahead for everyone. As always, those that look ahead and invest accordingly will thrive best and our panel's forecast shows the industry is up for the challenge.

EXECUTIVE SUMMARY

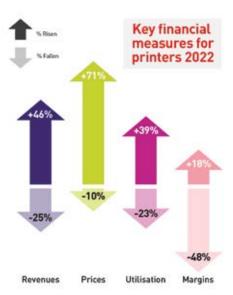
A lot has happened since the last report was drafted in Spring 2020! Covid 19, global supply-chain difficulties, regional wars, trade wars, rising inflation, climate change – the list goes on. But so does life and the print industry is remarkably resilient. Strikingly, printers globally were, on average, slightly more confident about their companies than they were in 2019 and have strong expectations for 2023.

EXPECTATIONS OF RECOVERY

Globally in 2022, 34% of the printer panel stated that their companies' current economic condition is 'good' and 16% described it as 'poor' – a net positive balance of +18%. It is this net balance, positive or negative, that



Key financial measures for suppliers 2022



Key financial measures for printers 2022

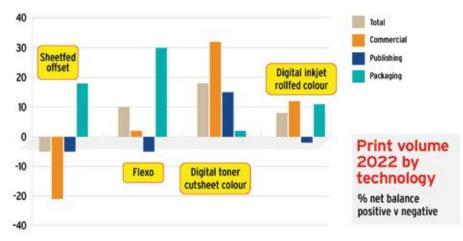


Table 1: Print volume 2022 by technology

"Net positive balances for publishing (+36%), commercial (+38%), packaging (+48%) and functional (+51%) are expected"

is used in many of the charts. The detailed breakdown of printers and suppliers by market and region is given in the full report's Appendix. The data sets for Australia/Oceania and the Middle East were too small to use separately, but are included in the global data. The same applies to functional printers. Where small data sets have been included, e.g., North America and Africa, attention is drawn to this limitation in both the text and the charts. Column gaps in any chart indicate a nil result.

We can see striking variations in optimism, for example, between a cautious Europe and South/Central America or Asia who are hopeful. Looking at the data by market, packaging printers show increasing confidence; publishing printers show a recovery from a poor result in 2019, while commercial printers reported a small decline this year, but have expectations of recovery in 2023.

Suppliers were more confident, with a global net positive of +34% for 2022 and notably more positive for Europe for 2023. Whilst they were a little more cautious for the commercial and publishing markets for 2022 - down 4-5% on 2019 - they have strong positive forecasts for all market sectors. Net positive balances for publishing (+36%),

Cap Ex Printers 2022 Global

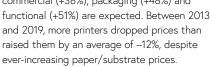
commercial (+38%), packaging (+48%) and and 2019, more printers dropped prices than raised them by an average of -12%, despite

PRICE HIKES

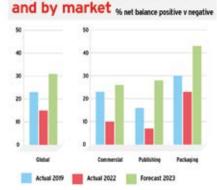
Then suddenly, in 2022, there was an unprecedented positive net balance of +61% in favour of those raising rather than lowering prices. Indeed, there were heavy paper/substrate price increases, but these never prompted such price increases to end-customers in the past. It should be noted that margins remain under pressure for almost everybody and, in this way, some things stay the same.

It is a similar story for suppliers with a +60% net increase in pricing - previously the highest was +18% in 2018. Clearly emerging from the pandemic, pricing behaviour has changed radically and this has implications for inflation if repeated across other industries.

Turning to printer operational measures, one key metric that has been tracked since 2014, is the volume of print produced by the huge variety of print technology. The Appendix of the main report provides this in



% of those with web-to-print with >25% turnover W2P



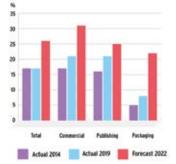


Table 2: Left: capital expenditures printers 2022 (global and by market). Right: per cent of those with web-to-print with >25% turnover W2F

full, but Table 1 gives the headlines, shown as net positive or negative balances in volume of printed material. A large drop in sheet-fed, offset in the commercial sector was almost matched by an increase in packaging. It is worth remembering that the first negative net balance in commercial was only in 2018 and then only very small. The other standout features are the huge growth in flexo printing for packaging and substantial gains in digital toner cut-sheet colour and digital inkjet, rollfed colour.

A GENERAL DECLINE

One trend we would expect to have seen sustained through the pandemic is the growth of digital print as a percentage of total turnover. Yet this appears to have stalled globally between 2019 and 2022 - except in commercial print which grew

Next, we must report a real puzzle. There has been a steady decline in the per cent of printers reporting who operate a web-to-print/digital store front. A peak of only 27% in 2017 reduced to 23% in 2019 and dropped to 20% in 2022. For commercial printers, this has dropped from 38% in 2017 to 26% in 2022, while publishing grew to 33%. Packaging fell from 15% in 2019 to 7% in 2022. We acknowledge the reduction in sample size but globally, the numbers are still good. Hopefully, 2023 will show a recovery.

WEB-TO-PRINT INCREASE

However, for those with web-to-print installations, the Covid 19 period saw a substantial increase in turnover via that channel (Table 2). Pre-Covid, this had stalled with no significant worldwide growth across all markets between 2014 and 2019. Just 17% of the panel with web-to-print, reported more than 25% of turnover. However, since then, it has shot up to 26% and the increase is across all markets.

HOPE FOR 2023

Not surprisingly, capital expenditure has fallen back since 2019 both globally and in all markets, but the prospects for 2023 and beyond are good. All regions forecast growth next year, except Europe with a flatline forecast. Finishing equipment and print technology were by far the most popular targets.

Regarding print technology, the clear winner in 2023 will be sheet-fed offset (31%), followed by digital toner cut-sheet colour (18%) and digital inkjet wide format and flexo both at 17%. It is very striking that sheet-fed offset remains the favourite target in 2023, despite a clear decline in volume of offset print in some markets. For some it is to consolidate, reduce labour and wastage; for others it is to grow capacity. What is more the popularity of sheet-fed offset remains for all three markets - see Table 3.

Top two print technology investment plans by market 2022

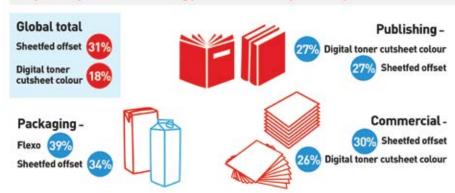


Table 3: Top two print technology investment plans by market, 2022

INVESTMENT PLANS

Interestingly, when asked about long-term investment plans over five years, digital print came top at 62%, followed by automation at 52% and conventional print at 32%. This is not to overlook the fact that digital technologies are growing fast.

As for suppliers, they reported a net positive balance (+15%) for capital expenditure in 2022 and a net positive of +31% in 2023. Investment forecasts for 2023 were more muted in commercial and publishing but strong in packaging and functional.

STRATEGIC CHALLENGES

Looking at the emerging strategic challenges, both printers and suppliers have been struggling with supply chain difficulties. Printers are struggling with paper/substrates and consumables for printers and suppliers with raw materials for suppliers. Both businesses expect these problems to continue into 2023.

Forty-one per cent of printers and 33% of suppliers also reported labour shortages. Wage/salary rises have been and/or will be the result. Environmental, social and governance issues are increasingly important across the world for both printers, suppliers and their customers.

Considering short-term constraints on the print market, traditional issues dominate strong competition and lack of sales, primarily with packaging printers and demand, particularly for commercial printers.

GLOBAL AND REGIONAL INFLUENCES

Looking to the next five years, the impact of digital media is highlighted by both printers and suppliers, followed almost equally by a lack of specialist skills and over-capacity in the industry. When the Trends Report series started, only modest attention was paid to broader socio-economic issues. However, given the increasing impact these have had on the print market, questions regarding this were added in 2019. Given Covid 19 and the other challenges that have come fast and furious since, this was a wise decision.

Globally 52% highlighted the impact of the pandemic either directly or on the economy and 42% chose economic recession in their country or region. But there were some noticeable regional variations. For example, 62% of printers in Asia chose pandemic impact versus 52% worldwide; 58% of South/Central American printers chose economic recession versus 42% in the rest of the world. Thirty-two per cent of European printers chose regional physical wars versus 21% worldwide. There was a clear majority (59%) that thought socio-economic pressures were either more important than, or of equal importance to, market pressures.

In conclusion, we were encouraged by the broadly positive outlook that printers and suppliers had both of trading in 2022 and the prospects for 2023. Indeed, perhaps the single most striking result of the survey was that globally the barometer of economic confidence was slightly higher in 2022 than in 2019. Then again, most regions and markets forecast better trading in 2023. This was not universal and there are strong global and regional headwinds, making business more difficult.

DETERMINATION IN INVESTMENT

Clearly investment fell during the pandemic and companies have taken time to recover. Starting in 2023, printers and suppliers report a determination to grow their businesses, investing as necessary. As there are few signs that market and broader economic pressures will lessen, this is just as well. For only those companies who invest wisely, bring their costs down by raising productivity, diversify and innovate, and invest in their team, will prosper.

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