

museum innovation barometer

2021

by MUSEUM BOOSTER



TABLE OF CONTENTS

- 01** Survey results:
An overview how museums worldwide are using technologies
- expositions
 - mediation
 - communication & feedback
 - museum management
 - data collection
- 02** 6 significant developments in the museum realm due to COVID-19
- 03** 3 outstanding museums in terms of digital transformation
- 04** 3 striking social media campaigns

- 05** 4 digital revenue ideas
- 06** 4 smart tools
- 07** 4 great ideas
- 08** 3 informative research reports on digital revenue
- 09** Newly opened museums

INTRODUCTION

The year 2020 shook up the museum world like no other before. More than 90% of the museums worldwide had to shut their doors for the first time ever in their history. Even the most destructive and insecure historical phase of the 20th century in Europe, World War II, has not wounded cultural institutions as much as COVID-19. Amidst bombing alarms and shortages of many kinds, cultural palaces like the National Gallery in London continued to display artworks in their buildings

The pandemic has impacted not only the financial side of museum operation causing dramatic income losses, but also the working conditions and mental wellbeing of museum staff. In short, the year 2020 was financially and mentally devastating for the museum world and institutions of all sizes – big institutional clusters and art temples as well as small local museums faced the same crisis.

However, every crisis also opens a window of opportunity, motivates to evolve and change. Last year represented a high-tide for technology and a deeper acknowledgement of the urge for digitalisation within the museum sector.

The closure of cultural institutions for visitors pushed their teams to find other ways to engage with audiences. Institutions actively involved digital platforms – social media, livestreaming, online exhibitions, virtual tours, videogames and podcasts. Many took the plunge into trying out new digital software, previously untapped platforms and channels. This implied an upskilling of the museum employees and made remote working easier.

After a first wave of launching free digital offers, in the course of the year 2020,

museums also started to think about how digital could bring new, and the further in lockdown the more needed, revenue sources.

In this report, we elaborate how the year 2020 has influenced the museum sector in terms of technological and digital developments, combining the results of the Museum Innovation Barometer survey with best practice cases and additional summaries of significant previous research reports on this topic.

**Survey results:
An overview how
museums
worldwide are
using technologies**

01

KEY FACTS & METHODOLOGY

*annual survey
by MUSEUM BOOSTER*

*focus: technology & innovation
in museums*

time line: since 2015

*sample size: 150 institutions,
representing 200 museums*

geographic spread: globally

*current survey period:
December 2020 to May 2021*

MUSEUM INNOVATION BAROMETER is an ongoing research endeavour aiming to analyse the status quo of new technologies and innovations in the museum world and to forecast future trends. The edition of the year 2021 also looks into how COVID-19 has influenced the digital transformation of museums.

From December 2020 to May 2021, a digital survey has been distributed among museum and science centre directors as well as experts from different departments (IT, marketing, communication and curatorial departments). The outreach of the survey is global. Altogether, 150 individual and cluster institutions have participated, allowing an insight into the operation of approximately 200 museums.

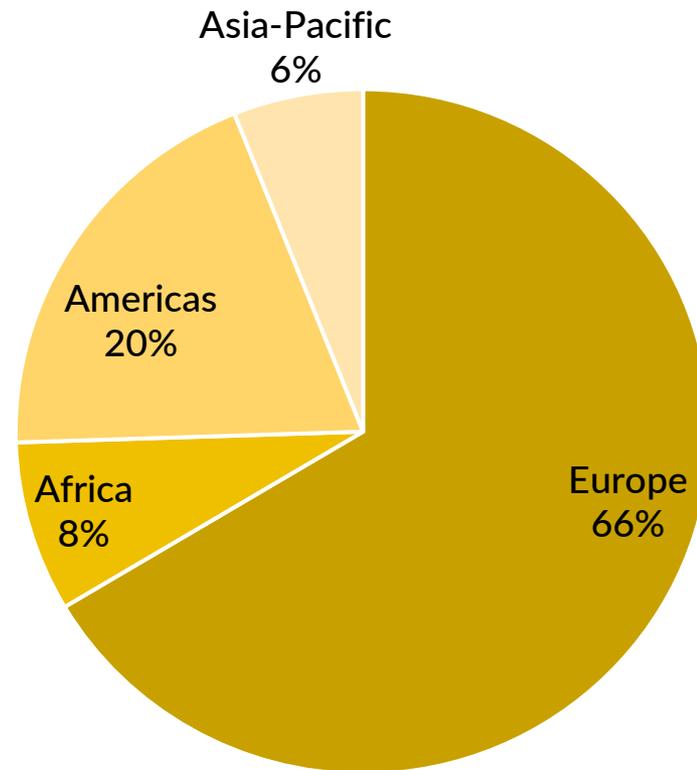
The survey interrogates the role of technologies and digitalisation before and after the COVID-19 outbreak, grow-into areas and strategic planning for the upcoming three years in the fields of visitor experience, digital infrastructure, data collection as well as revenue generation.

The majority of the 45 questions were multiple choice. This allowed the collection of key criteria on museums and their approach to new technologies and digital transformation in a systematic, standardised way. For questions which required more detailed (and in some cases, creative) input, an open text format was chosen.

GEOGRAPHY

Surveyed museums by geographic division, 2020

The museums which participated in the survey were from 39 countries – including 27 from Europe (Albania, Austria, Belgium, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Hungary, Iceland, Ireland, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Romania, Russia, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom), six from the Americas (Argentina, Canada, Chile, Costa Rica, United States and Uruguay), five from Asia and Oceania (Australia, Japan, New Zealand, Qatar and Taiwan) and one from Africa (South Africa).

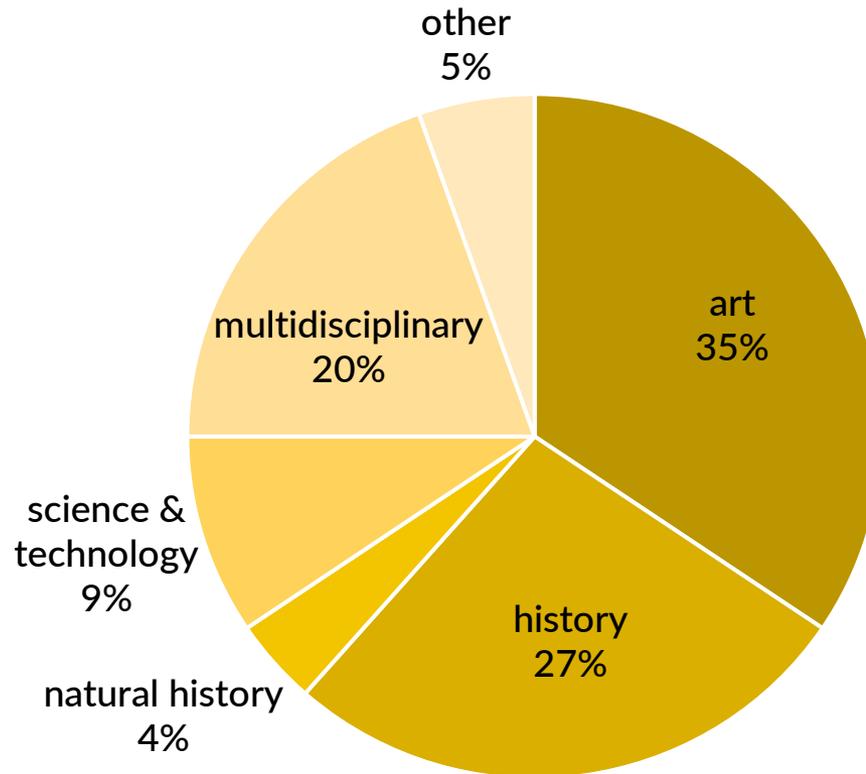


Notes: Europe includes Russia and Turkey, Americas include North America, Caribbean, and Central & South America, Asia Pacific includes Middle East and Oceania.

TYPE OF MUSEUMS

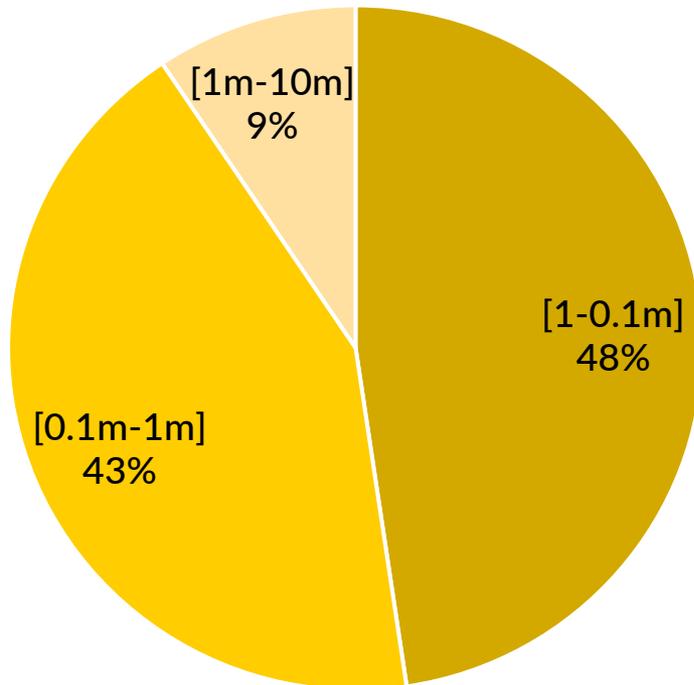
Surveyed museums by type, 2020

Most of the institutions which responded focus on art (35%), the rest on other topics: history (27%), multidisciplinary (20%), natural history (4%), science & technology (9%) and other (5%).



VISITORS

Surveyed museums by visitors, 2020

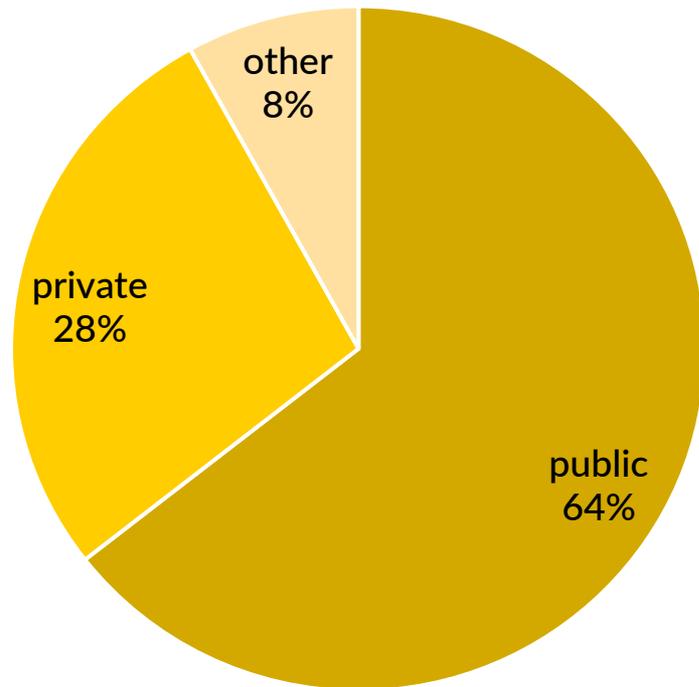


More than 48% of contributing museums have an annual visitor number up to 100,000; 43% receive between 100,000 and one million visitors; and 9% are large-scale museums with more than one million visitors per annum.

The numbers of visitors stated in the survey and used for this graph were taken from the year 2019 since final numbers for the year 2020 were not available in all institutions at the time of filling out the survey.

OWNERSHIP

Surveyed museums by ownership, 2020



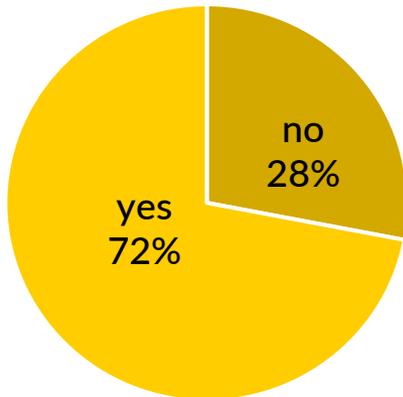
68% are public museums, 28% of them are privately owned institutions and 8% have other types of legal status.

AVAILABILITY OF WIFI & DIGITAL DEPARTMENT

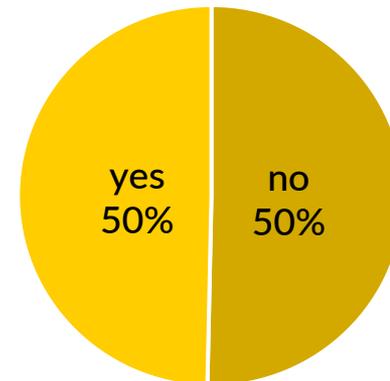
72% of the museums that replied to the survey offer WIFI to their visitors.

Only half of the interrogated institutions have an in-house IT department or digital team.

Availability of WIFI



Availability of Digital Team

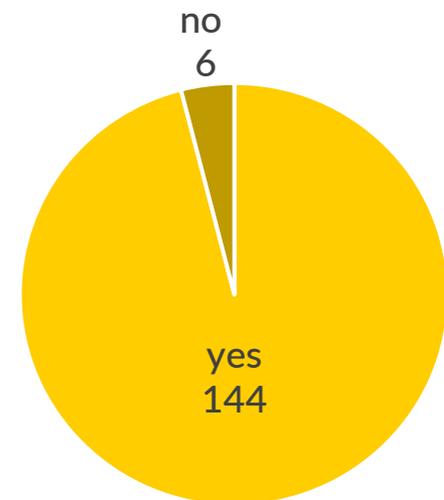


MUSEUM CLOSURE DUE TO COVID-19 & INFLUENCE ON DIGITALISATION

The majority of the respondents stated, that their museum(s) had to close for a specific period of time because of COVID-19. Overall, museums were facing waves of closures (March 2020, October – November 2020) and reopenings (May – July 2020, March-May 2021) over the course of the last year depending on the dynamics of infection rates within each specific country*. Among the first countries to announce reopening in spring 2020 were the Netherlands, Norway, Poland, Switzerland, Austria and Germany. Only in two countries, Belarus and Sweden, no general lockdown measures had been decreed by the respective governments and no closures were imposed onto museums, respectively. In Sweden, museums could decide themselves if to remain open or not.

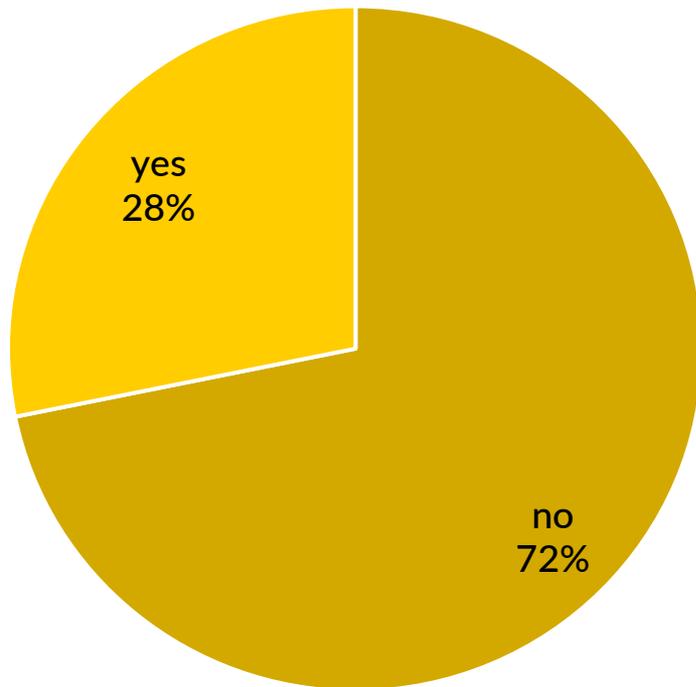
In terms of digitalisation, the pandemic has accelerated the production and use of video and digital content as well as fostered consideration for and implementation of digital solutions for management and infrastructure enhancement purposes. Livestreaming, online tours and online exhibitions, podcasts and social media challenges were among the most used digital formats to deliver content and stay connected with audiences at home. Zoom and YouTube were the most used platforms. The waves of reopening have also fostered implementation of touch-free tools. Many museums also seized the closures to update their website and apps. Contactless access control, digital wayfinding, online ticketing, crowd control, real time tracking of occupancy rates, thermal screening and controlling, visitor heat map technology and Content Management Systems had been increasingly implemented in the course of last year.

Museum closure due to the pandemics



*For more detailed information on the status quo of each country in Europe, the Network of European Museum Organisations offers an [interactive map](#) with the latest updates on museum reopenings and safety measures. The American Alliance of Museums launched [two surveys](#) to capture the situation of museums in the US.

HAS YOUR INSTITUTION MANAGED TO DESIGN NEW FORMATS AND TOOLS FOR DIGITAL REVENUE IN 2020?

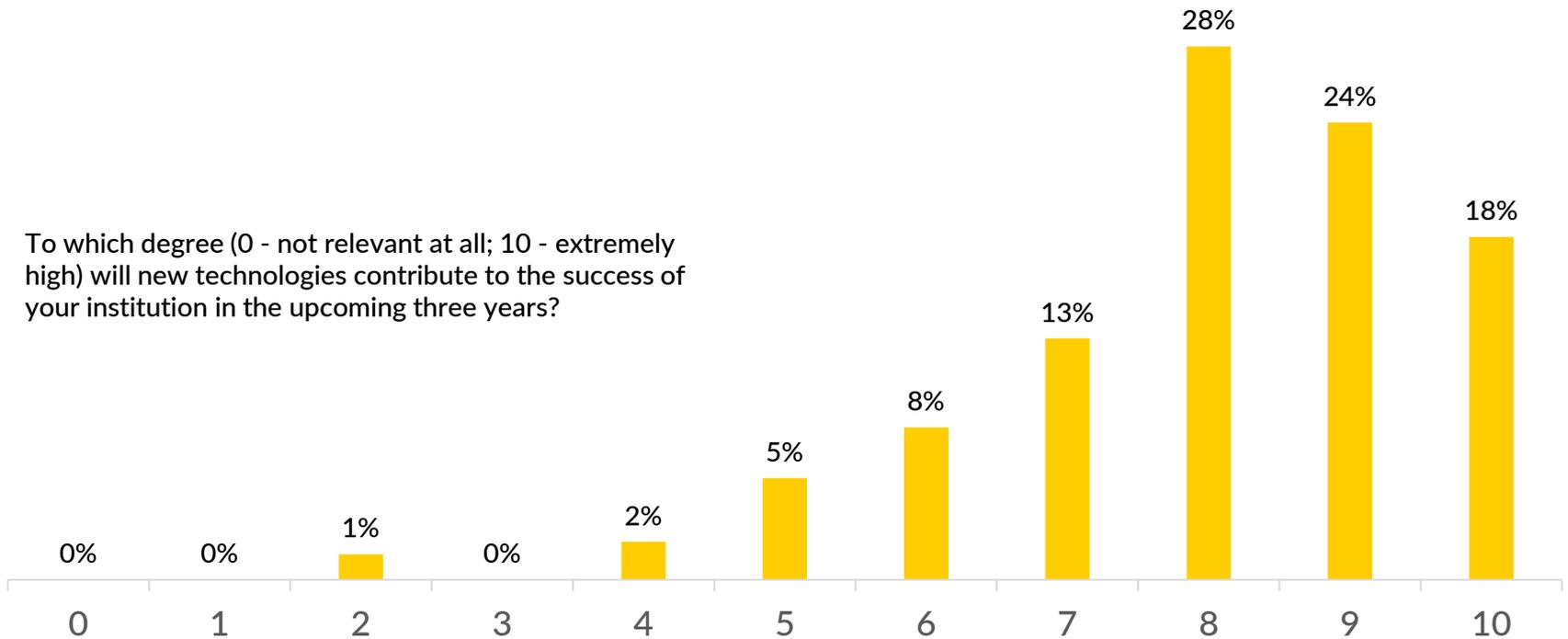


Among the museums that replied to the survey, only 23% managed to design and launch new formats and tools for digital revenue in order to cope with the pandemic.

One third of those who designed tools for digital revenue did it through online workshops, lessons, presentations and exhibitions. Other formats employed were online guided tours, online shops, live streams and video tours, virtual offers (AR and VR), website and social media, or online ticketing and memberships.

NEW TECHNOLOGIES AS A SUCCESS FACTOR

In every edition of MUSEUM INNOVATION BAROMETER, we ask museums to provide feedback and estimation on the question to which degree new technologies will contribute to the success of their institution in the upcoming three years. As expected, the certainty that their importance will increase rose to great extent due to the impact of the pandemic in 2020. Overall, almost 80% consider that new technologies are “important” (grades 6/7), “very important” (grades 8/9) and “extremely important” (grade 10). Compared to the survey of 2019, this percentage has increased around 10 percent.



REASONS FOR APPLYING NEW TECHNOLOGIES IN 2020

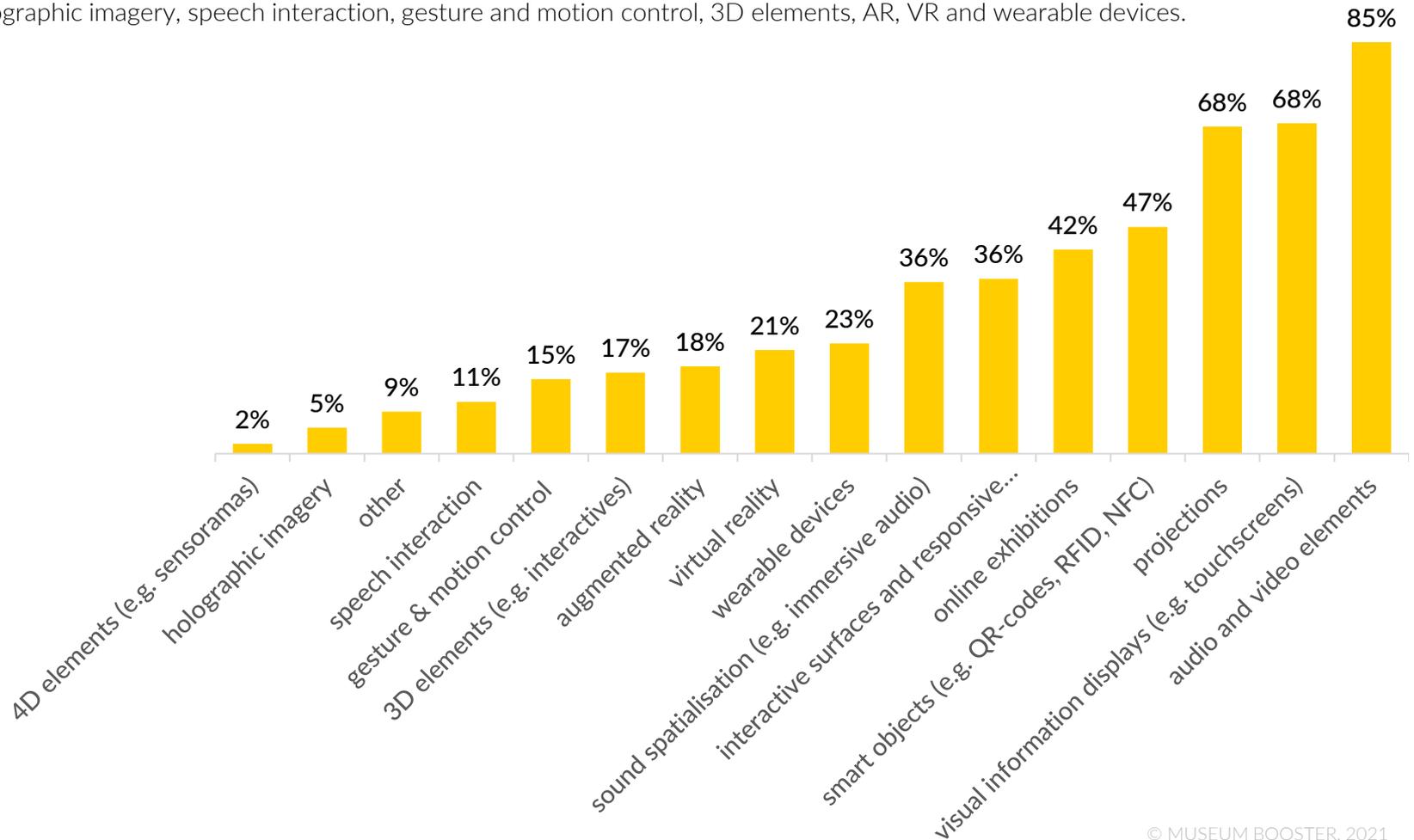
When asked about the reasons for applying new technologies in 2020, almost all respondents marked “to attract more visitors” (90%). The following top three motivations among contributing museums were “to improve the relevance of content creation and mediation” (85%), “to diversify the audience of the museum” (83%) and “to attract more on-site visitors” (77%) . The currently dominating motivations are a clear sign of the museums’ response to the challenges of the lockdowns.

Other relevant reasons for looking into and applying new technologies are “to optimise administrative and operational procedures” (66%), showing the relevance of and urge for optimisation of organisational structures and processes, as well as “to improve the smoothness of a visitor journey”, a sign of the museums’ concern about the provision of an enhanced visitor experience.



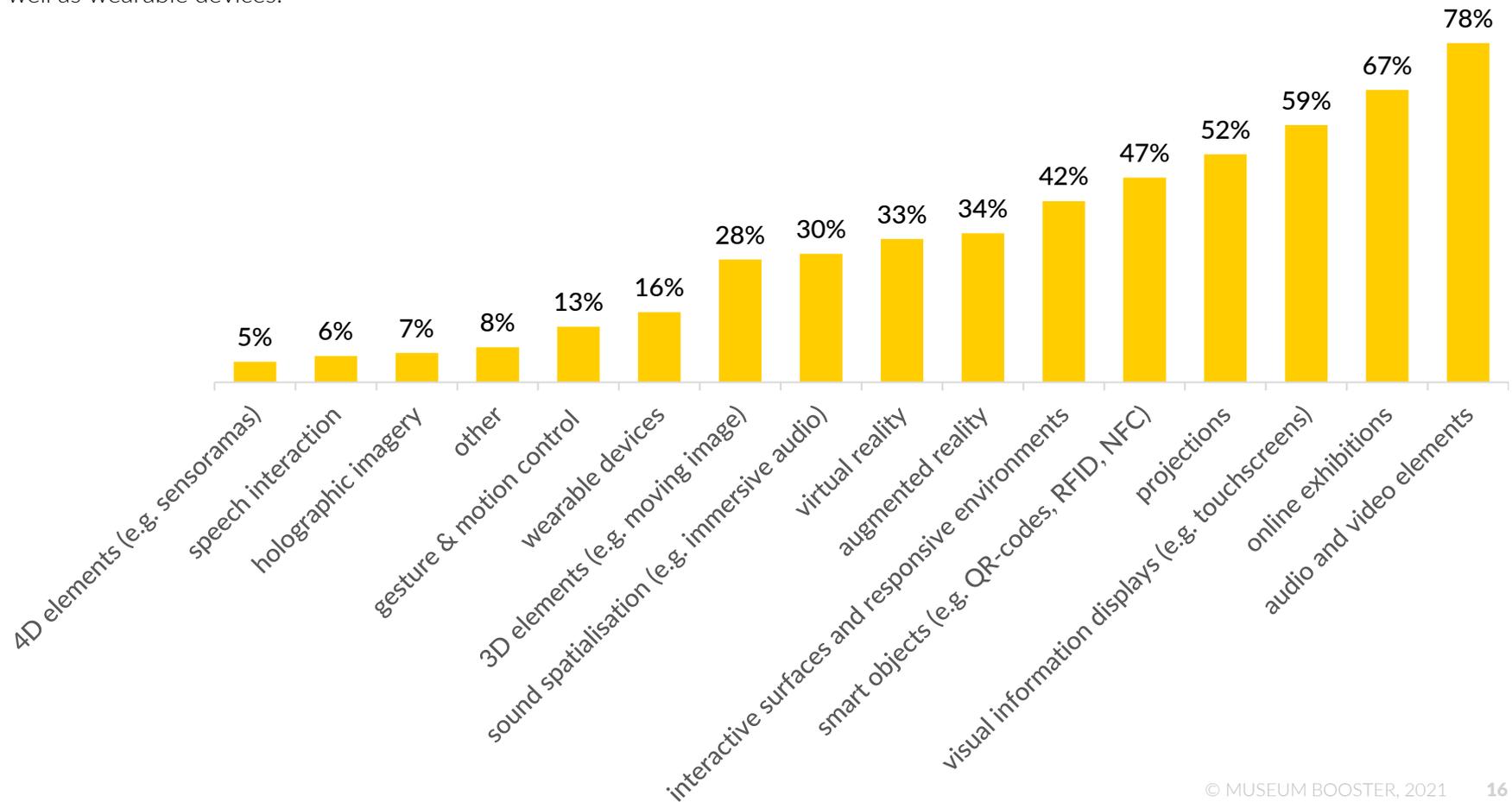
CURRENT USAGE - EXPOSITIONS

When asked about the domain of exhibitions and types of technological tools already in use, 85% of respondents report the use of audio and video elements on a regular basis and 68% use visual information displays and projections. Less widespread are smart objects (47%), online exhibitions (42%), interactive surfaces and responsive environments (36%) as well as sound spatialisation (36%). As for now, the least present within exposition technologies still are 4D elements, holographic imagery, speech interaction, gesture and motion control, 3D elements, AR, VR and wearable devices.



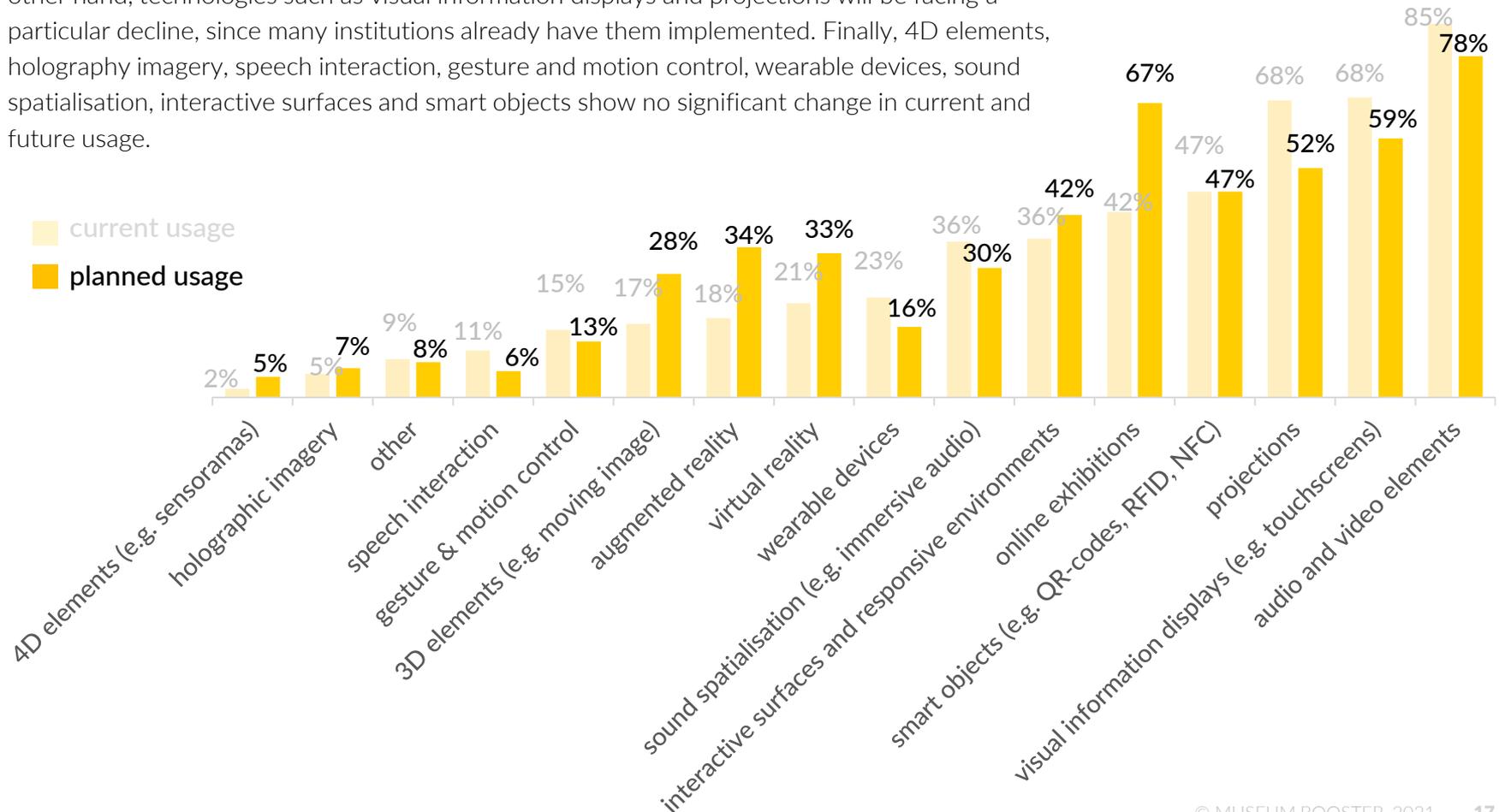
PLANNED USAGE - EXPOSITIONS

In terms of new technologies, tools and digital formats planned for implementation within expositions, audio and video elements are still prevailing (78%). Other relevant tools are online exhibitions (67%), visual information displays (59%) and projections (52%). Less than half of the participants are planning to use smart objects (47%) and interactive surface and responsive environments (42%). One third of the respondents are planning to use AR, VR, sounds spatialisation, and 3D elements. Finally, the tools that show the least importance within planned implementations (less than a quarter) are 4D elements, speech interaction, holographic imagery, gesture and motion control as well as wearable devices.



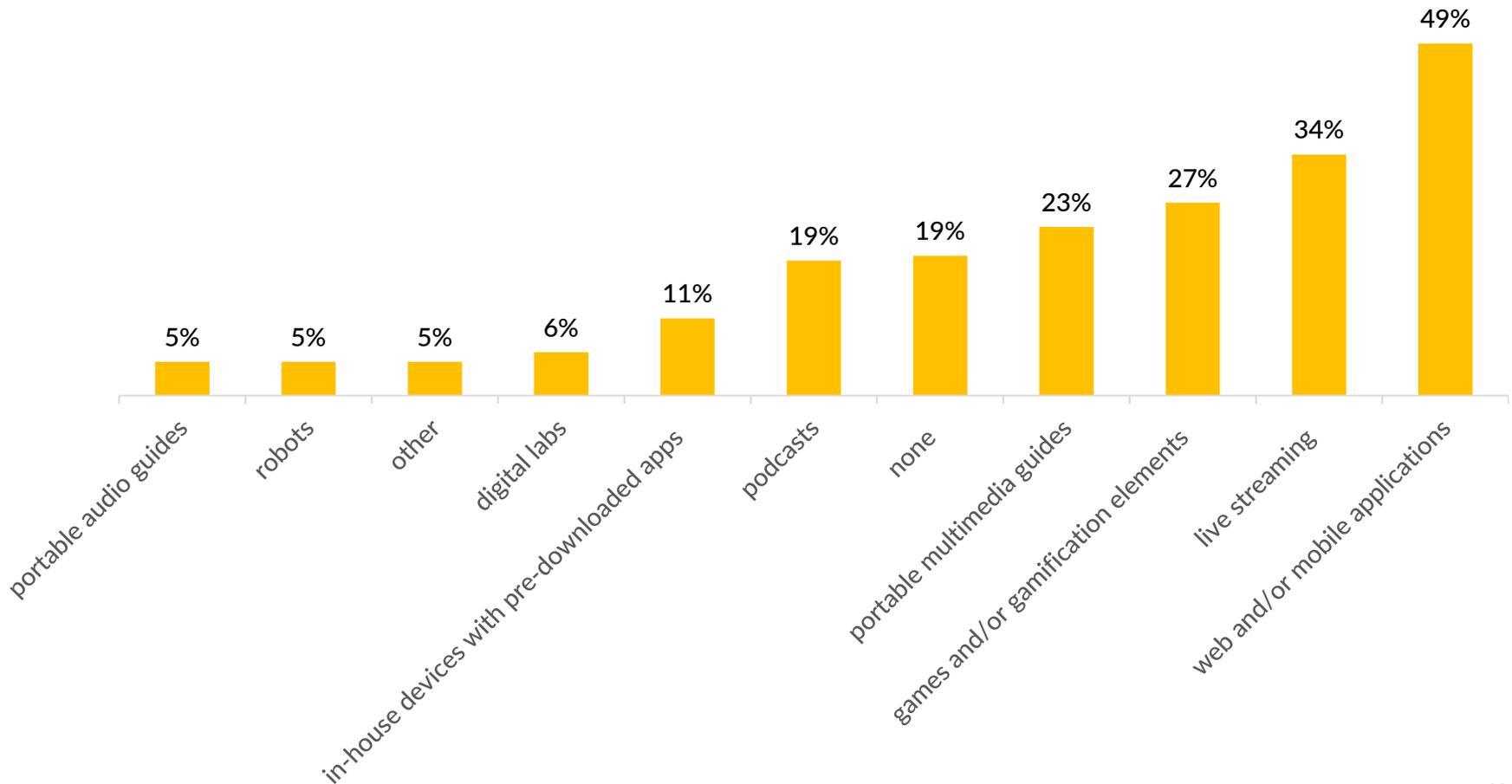
CURRENT & PLANNED USAGE - EXPOSITIONS

If we compare the numbers representing the current status of usage and plans for implementation, the technologies that will face a growth in usage (more than ten percent) are 3D elements, virtual reality, augmented reality, and especially online exhibitions. However, audio and video elements are currently and will remain in the upcoming three years the most commonly used tools. On the other hand, technologies such as visual information displays and projections will be facing a particular decline, since many institutions already have them implemented. Finally, 4D elements, holography imagery, speech interaction, gesture and motion control, wearable devices, sound spatialisation, interactive surfaces and smart objects show no significant change in current and future usage.



CURRENT USAGE - MEDIATION

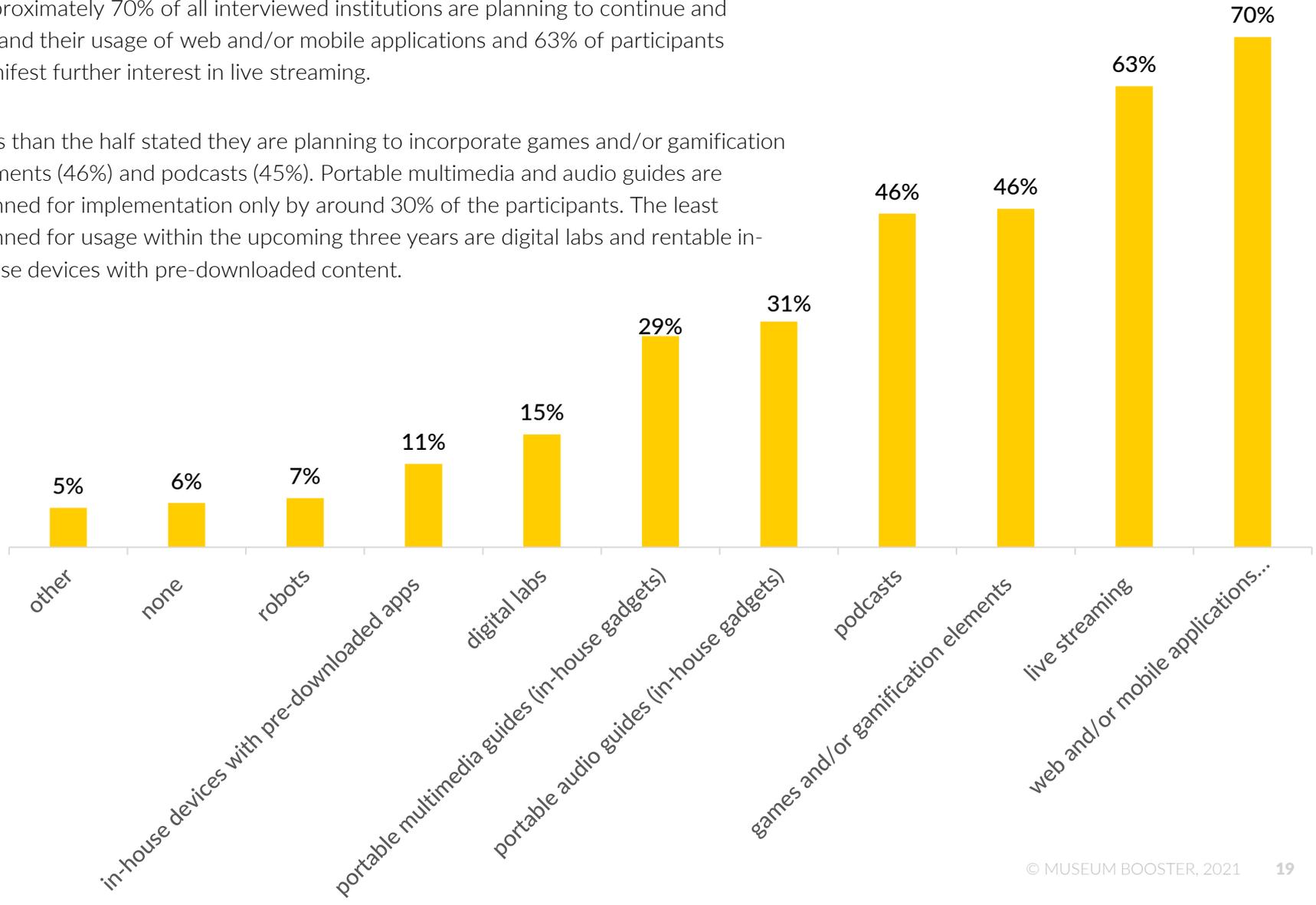
When asked about types of technological tools currently used for mediation, two prevailing tools have cropped up: 49% of the institutions use web and/or mobile applications and 33% live streaming. Almost a quarter instrumentalises games and/or gamification elements and portable multimedia guides. One third of respondents use podcasts. The least used tools (10% or less) were rentable in-house devices with pre-downloaded content, in-house digital labs, engagement of robots and portable audio guides.



PLANNED USAGE - MEDIATION

Approximately 70% of all interviewed institutions are planning to continue and expand their usage of web and/or mobile applications and 63% of participants manifest further interest in live streaming.

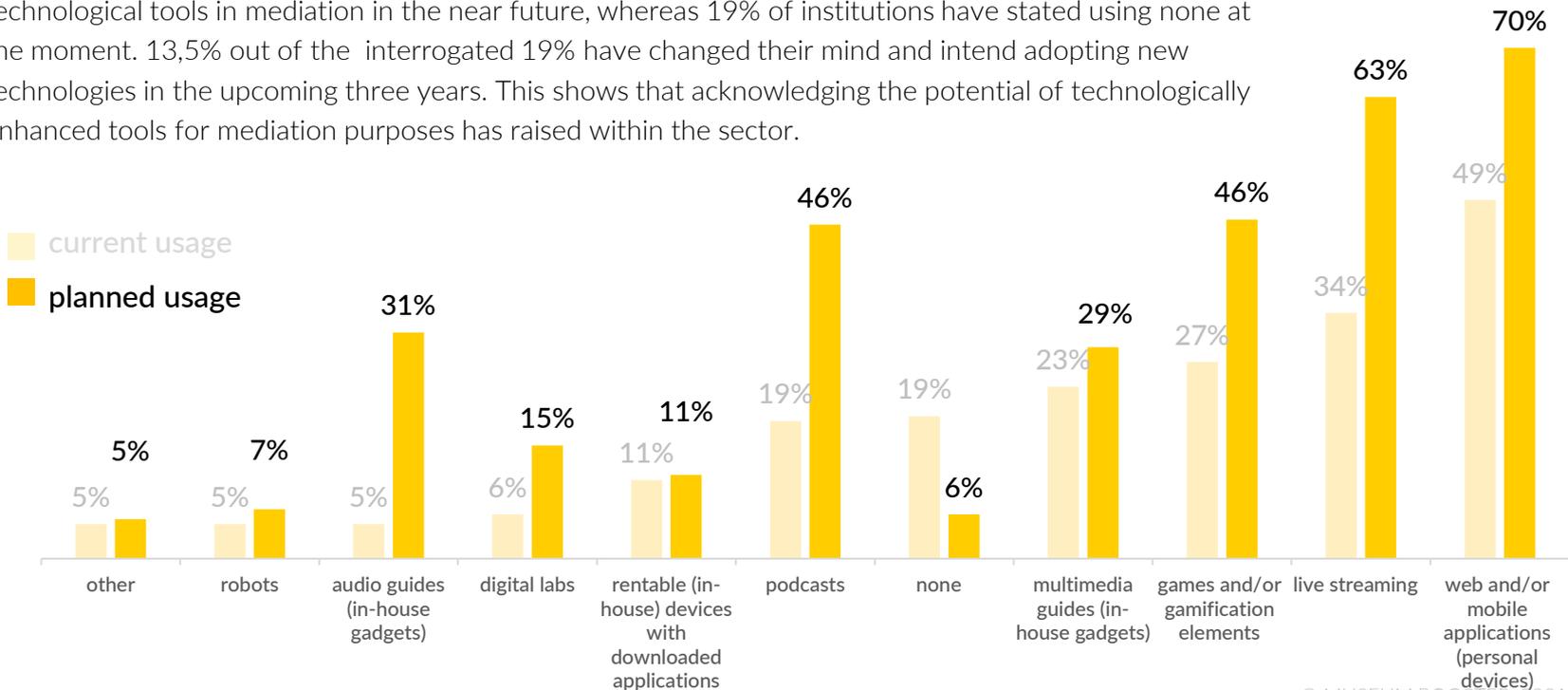
Less than the half stated they are planning to incorporate games and/or gamification elements (46%) and podcasts (45%). Portable multimedia and audio guides are planned for implementation only by around 30% of the participants. The least planned for usage within the upcoming three years are digital labs and rentable in-house devices with pre-downloaded content.



CURRENT & PLANNED USAGE - MEDIATION

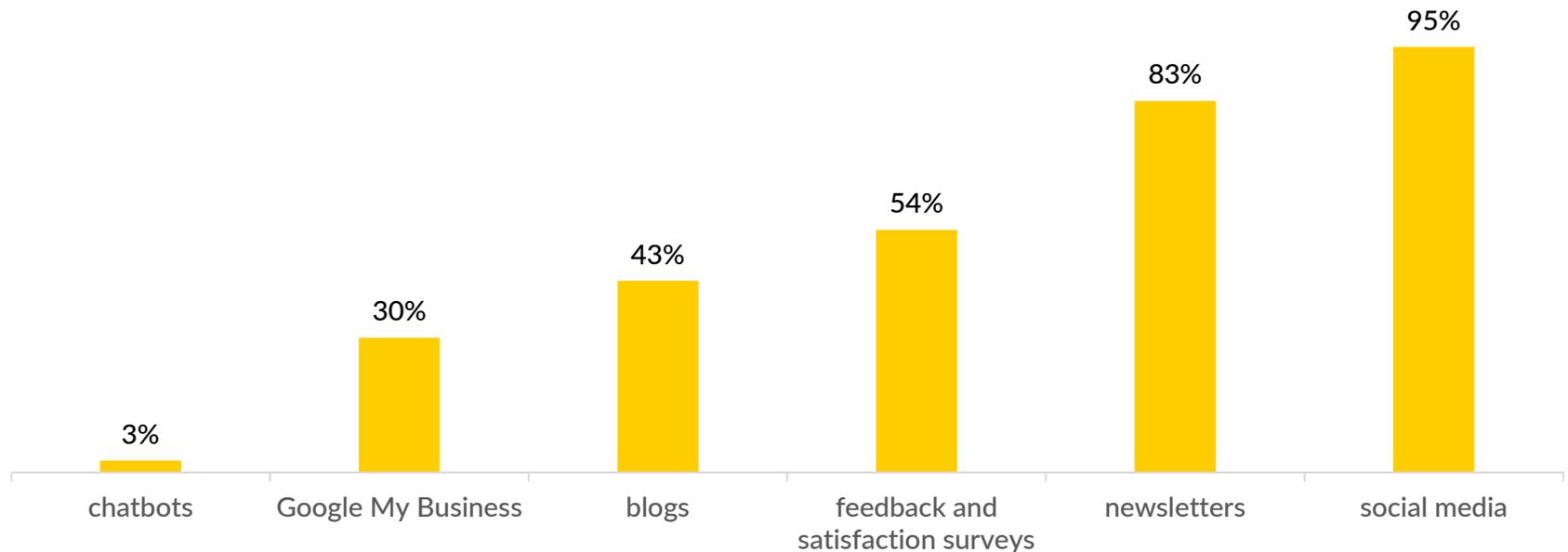
When the numbers are compared, it is possible to observe interesting changes. Live streaming, podcasts, portable audio guides, web and mobile applications, games and/or gamification elements are tools with a planned usage significantly higher than the current one (20 and, in some cases, 30 percent increase). It is also interesting to see how the usage of portable audio guides is planned to reach similar usage levels as multimedia guides, while the current usage rates of these two tools are showing a significant difference (almost 20 percent). Digital labs also show a higher planned usage in comparison with the current numbers but only around a 10 percent increase.

In the meantime, robots, rentable in-house devices with pre-downloaded content and portable multimedia guides show no significant change between the current and planned usage rates. Finally, it is important to notice that only 6% of the respondents pointed out that their institutions have no intention to engage new technological tools in mediation in the near future, whereas 19% of institutions have stated using none at the moment. 13,5% out of the interrogated 19% have changed their mind and intend adopting new technologies in the upcoming three years. This shows that acknowledging the potential of technologically enhanced tools for mediation purposes has raised within the sector.



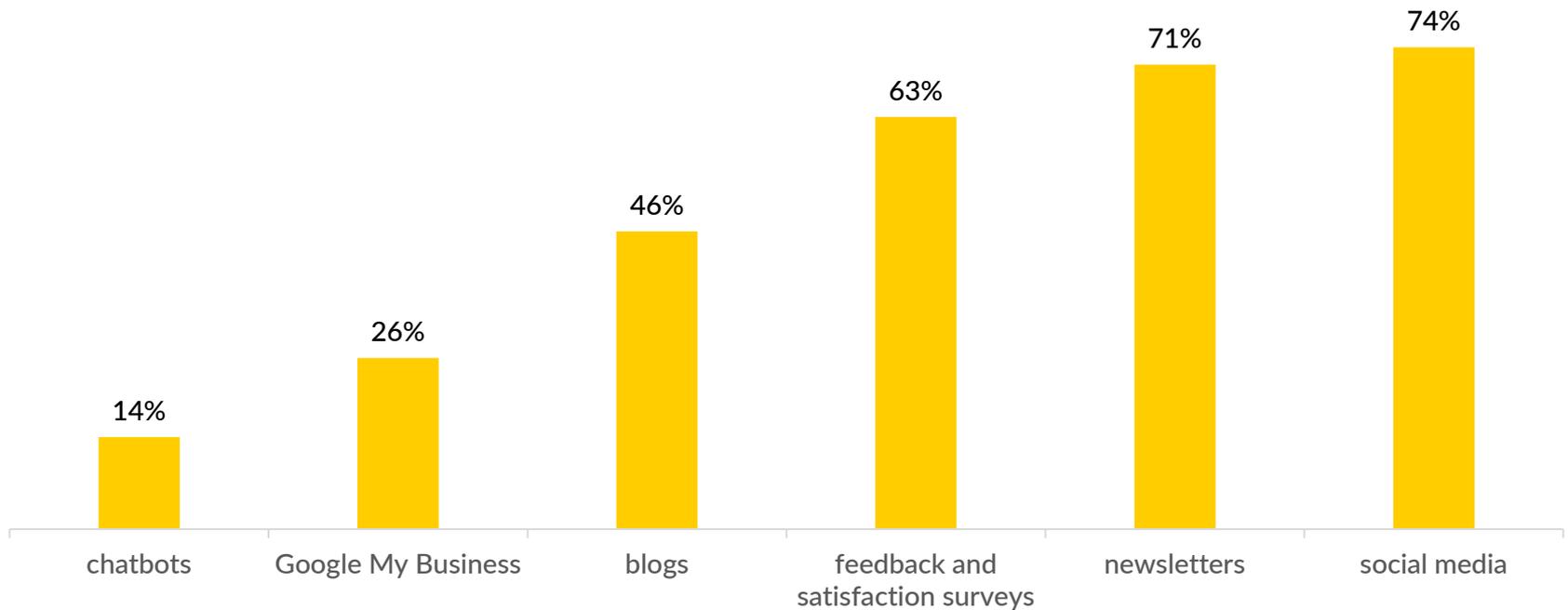
CURRENT USAGE – COMMUNICATION & FEEDBACK

When asked about tools already in use for communication and feedback, the respondents highlighted social media and newsletter as principal means for the purpose, 95% and 83% respectively. More than the half also instrumentalise feedback and satisfaction surveys (54%). On the other hand, the least used tool are chatbots, used by only 3% of the respondents.



PLANNED USAGE – COMMUNICATION & FEEDBACK

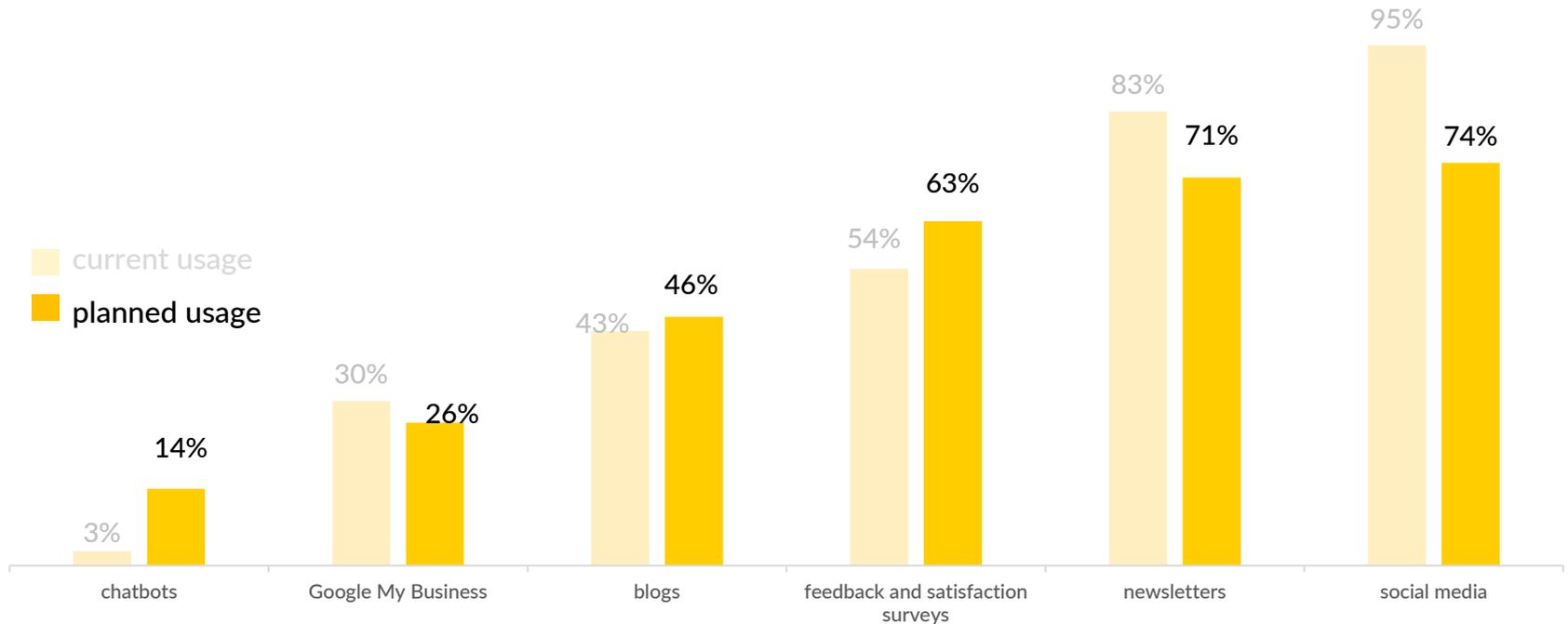
In terms of the planned implementation of tools for communication and feedback, no dramatic change is foreseeable. Social media (73%) and newsletters (71%), as well as satisfaction surveys (63%) are the main planned tools to be used for this purpose. The tool with the least planned usage will remain chatbots with 14%.



CURRENT & PLANNED USAGE – COMMUNICATION & FEEDBACK

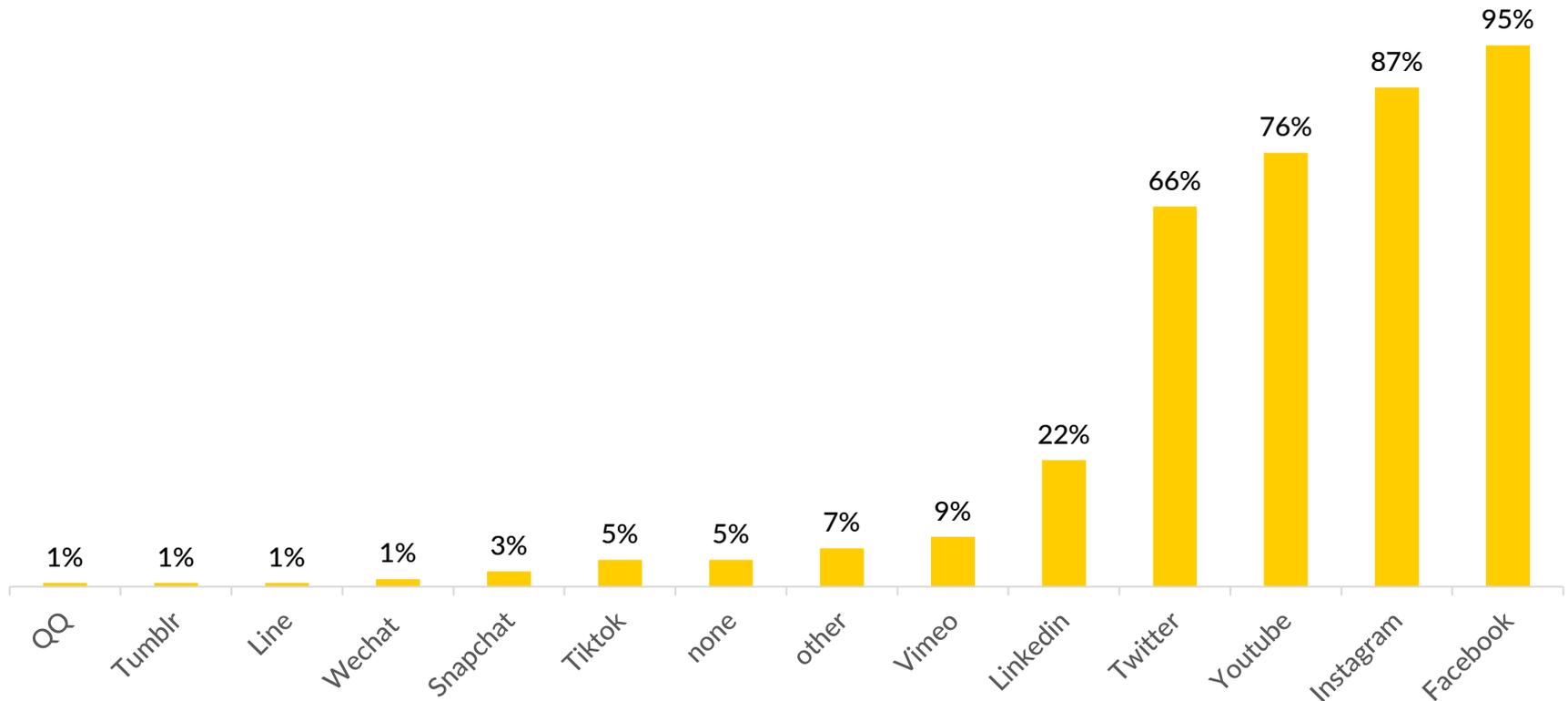
However, when the numbers for current and upcoming usage of technology-enhanced tools for communication and feedback are compared, we observe a tangible decrease in prioritising social media (more than 20 percent drop) and newsletters (more than 10 percent drop) in the domain of communication and feedback. This shows the consolidation of these means for communication purposes.

In the meantime, satisfaction and feedback surveys will be facing a rise, if compared to current usage rates. However, an even more significant difference is observed for the use of chatbots, more than 10 percent increase in planned implementation. Google My Business and blogs are tools that show no real difference between both numbers.



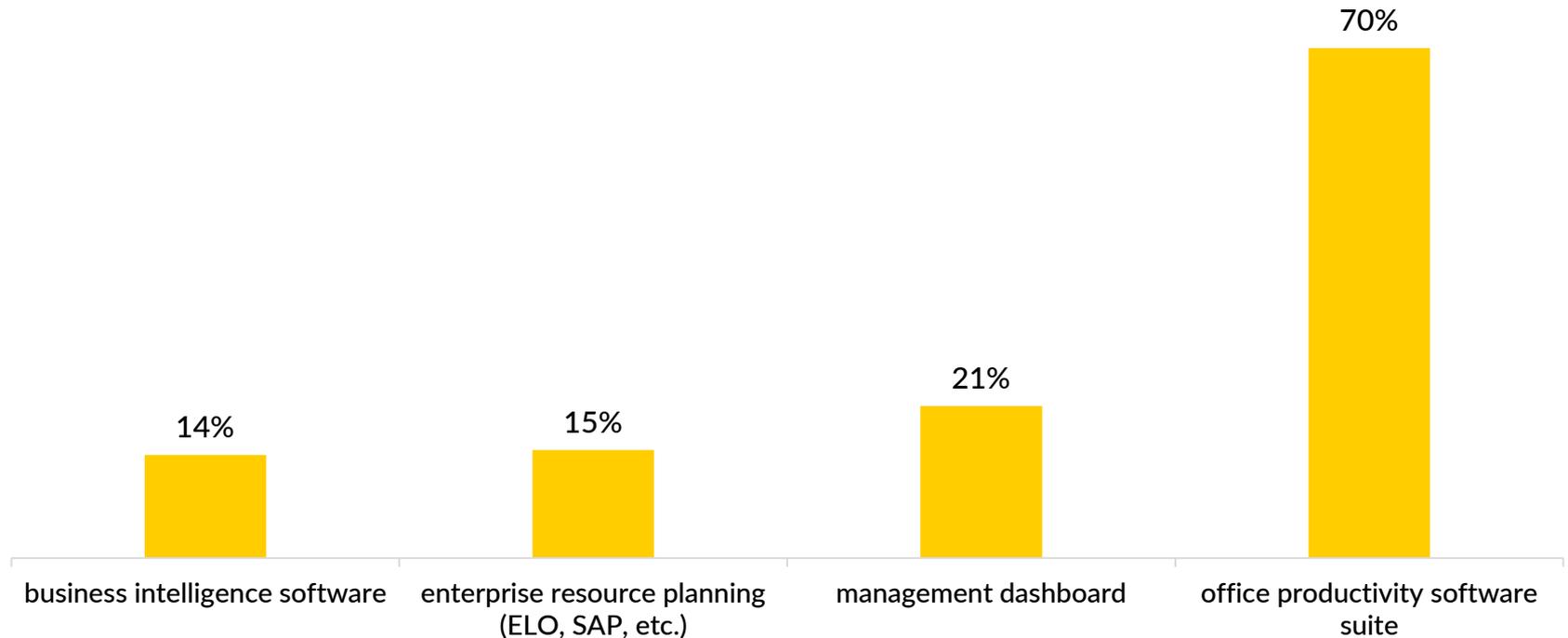
CURRENT USAGE – SOCIAL MEDIA

When asked about which social media channels are respondents using, 94% have reported Facebook, 87% Instagram, 75% YouTube and 66% Twitter. Only one fifth of the surveyed museums use LinkedIn. The rest of the social media are used by less than 10% of institutional respondents.



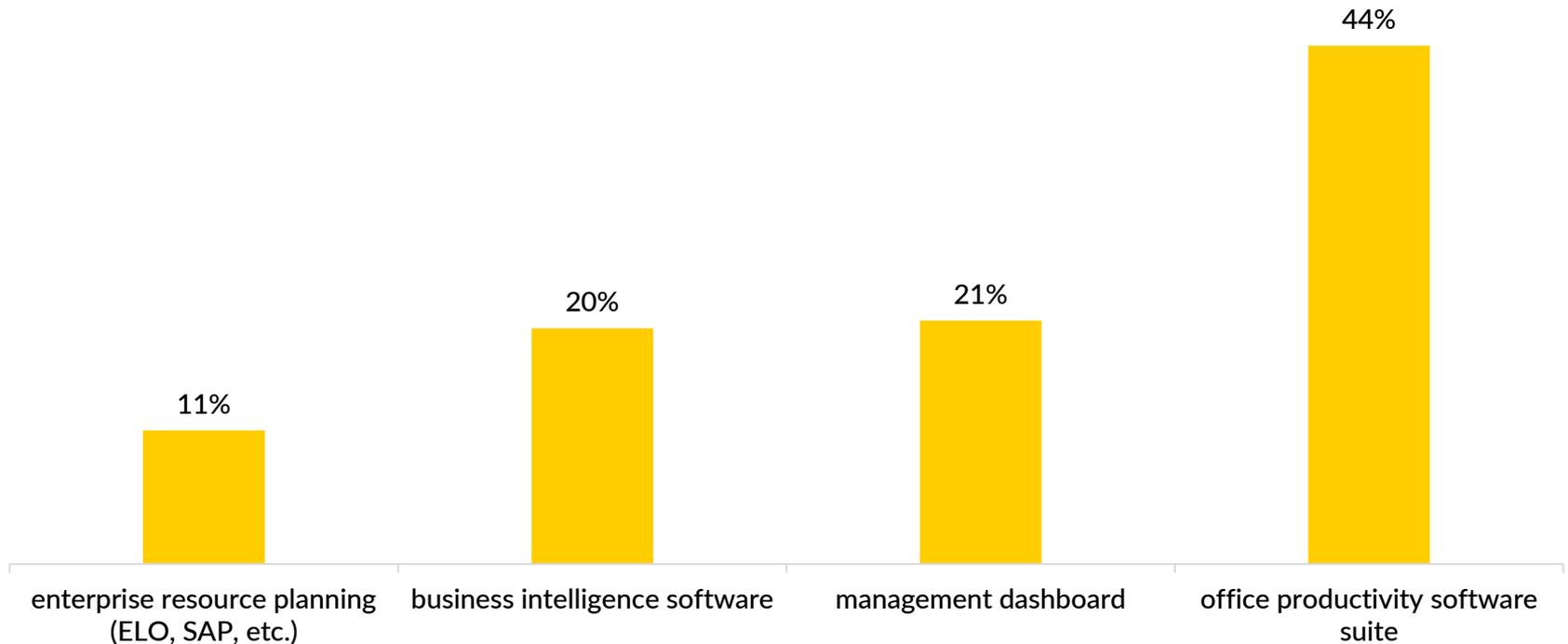
CURRENT USAGE – MANAGEMENT & INFRASTRUCTURE

When asked about which types of new technologies are already in use for museum administration, office productivity software (such as Microsoft 365, Google Workspace, Apple iWork, WPS Office) proved to be at the top of the list with 70% of museums employing it. To compare, tools such as management dashboards, enterprise resource planning, or business intelligent software are used only by 20% and less.



PLANNED USAGE – MANAGEMENT & INFRASTRUCTURE

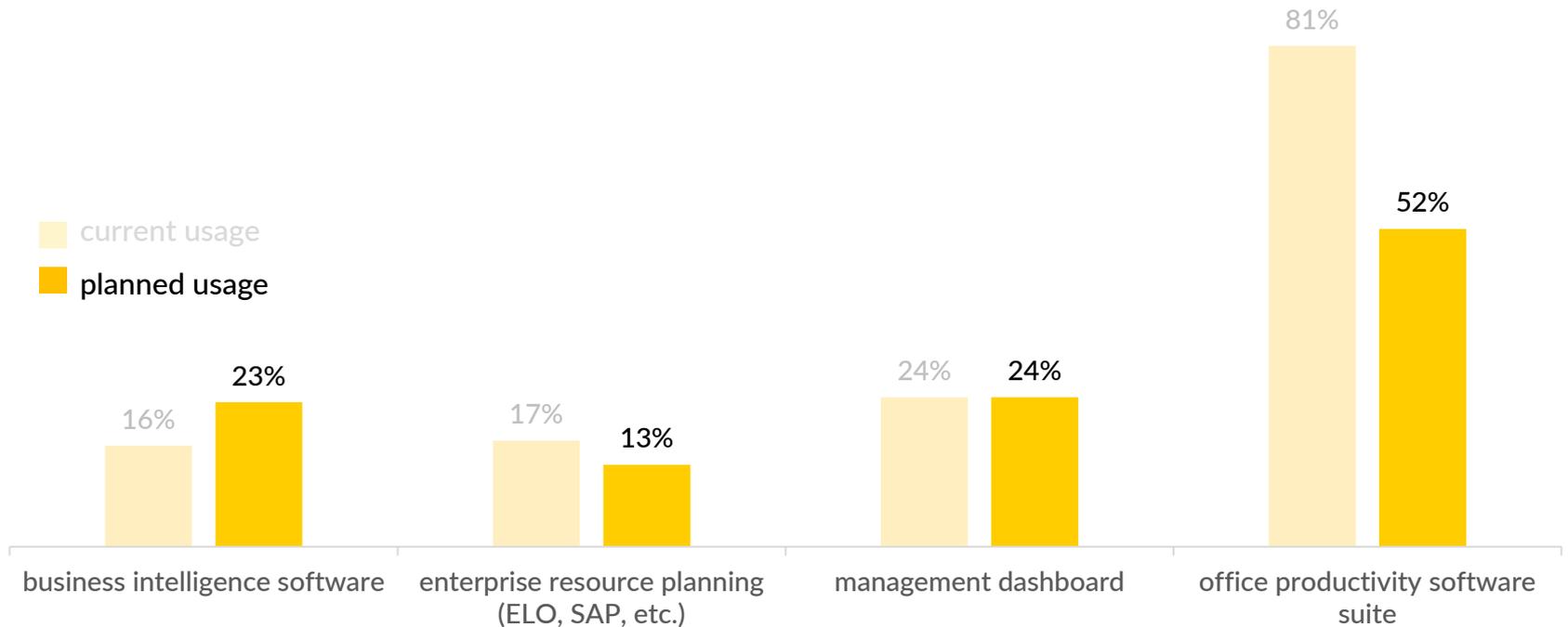
44% of all interviewed institutions confirmed their plans to start using office productivity software (e.g., Microsoft 365, Google Workspace, Apple iWork, WPS Office) in the upcoming three years. The use of management dashboards, business intelligence software and enterprise resources planning tools is planned by only around one fifth or less of the respondents.



CURRENT & PLANNED USAGE – MANAGEMENT & INFRASTRUCTURE

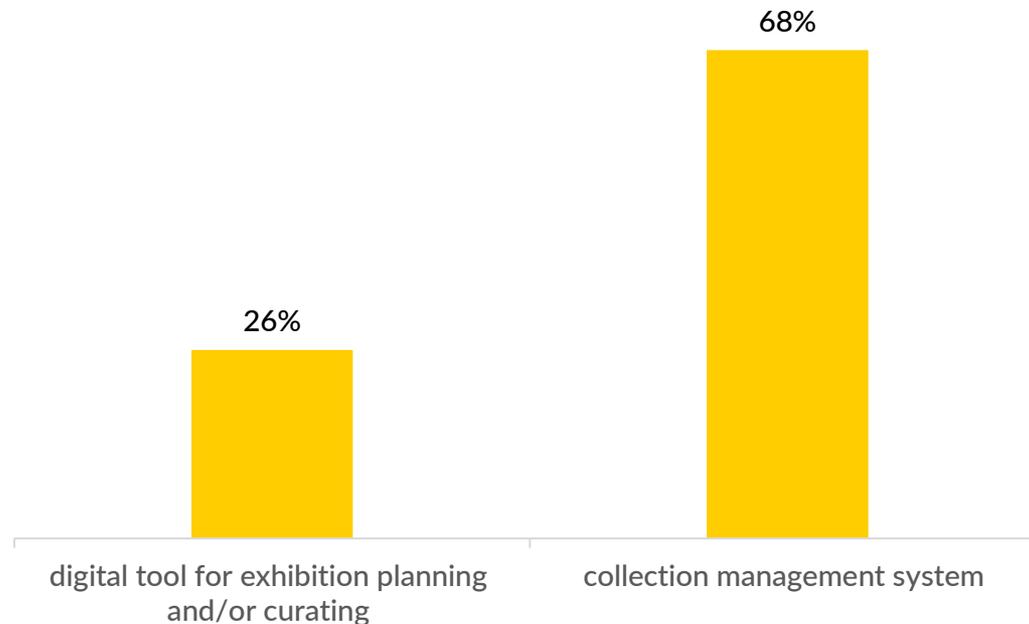
When the numbers for current and planned usage of new technologies are compared, it is possible to observe a decrease in new commitments to office productivity software among museums. But this is largely due to its already high adoption rates (more than 80%) within the sector.

For the rest of the technologies, there is no significant change between current and planned usage.



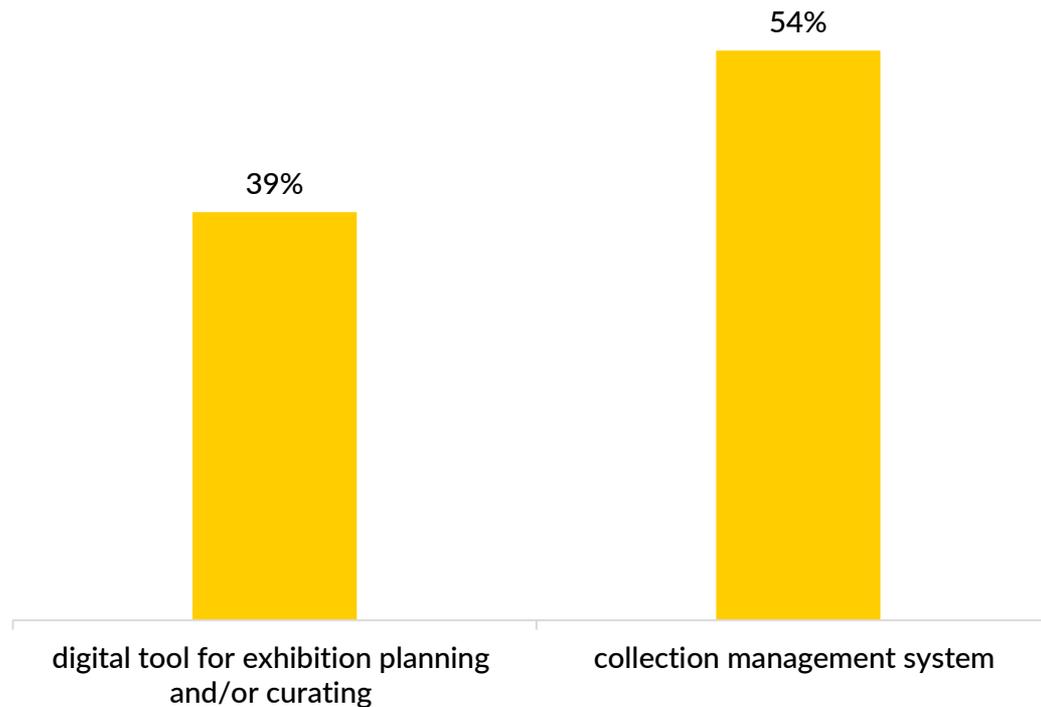
CURRENT USAGE – MUSEUM COLLECTION, LIBRARY & ARCHIVE MANAGEMENT

When asked about the current usage of technology tools for museum collection, library and archive management, 67% of the respondents said to be using a collection management system. Only 26% are using digital tools for exhibition planning an/or curating.



PLANNED USAGE – MUSEUM COLLECTION, LIBRARY & ARCHIVE MANAGEMENT

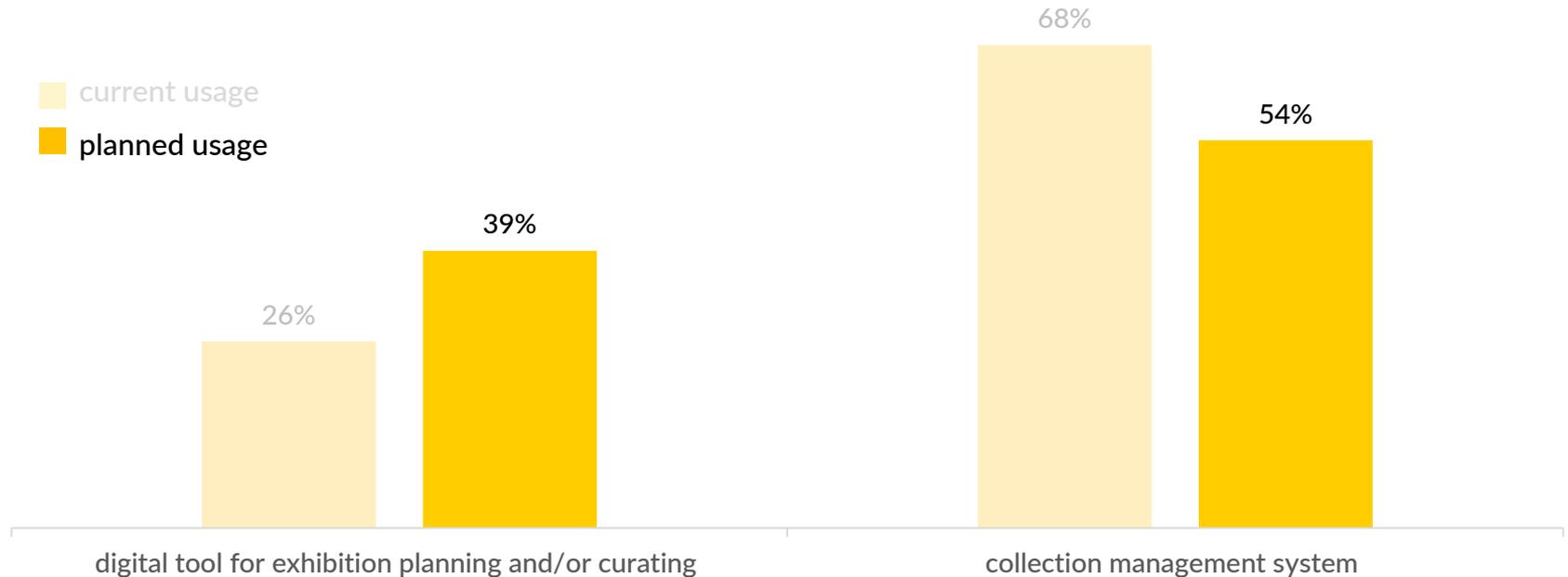
Regarding the planned usage of tools for museum collection, library and archive management, 54% of the responding museums answered that they planned to use a collection management system and 38% would start with a digital tool for exhibition planning and/or curating.



CURRENT & PLANNED USAGE – MUSEUM COLLECTION, LIBRARY & ARCHIVE MANAGEMENT

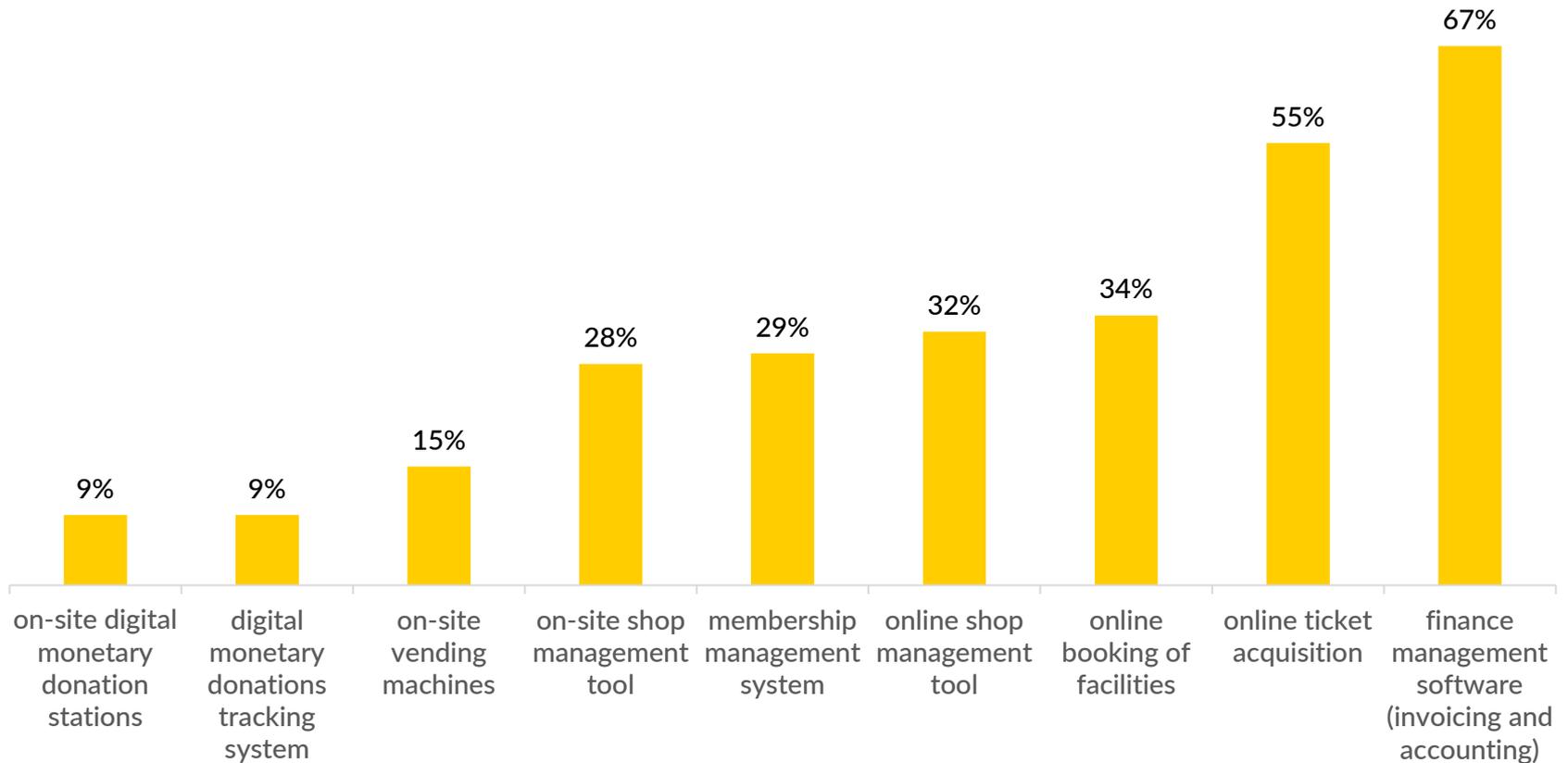
When the numbers for current and planned usage of new tools for collection, library and archive management are compared, we do not see an increase of new commitments and launches. The reason is that museums already broadly employ technologically-enhanced tools in this domain of their operation.

But there is also a significant increase in the planned use of digital tools for exhibition planning and/or curating.



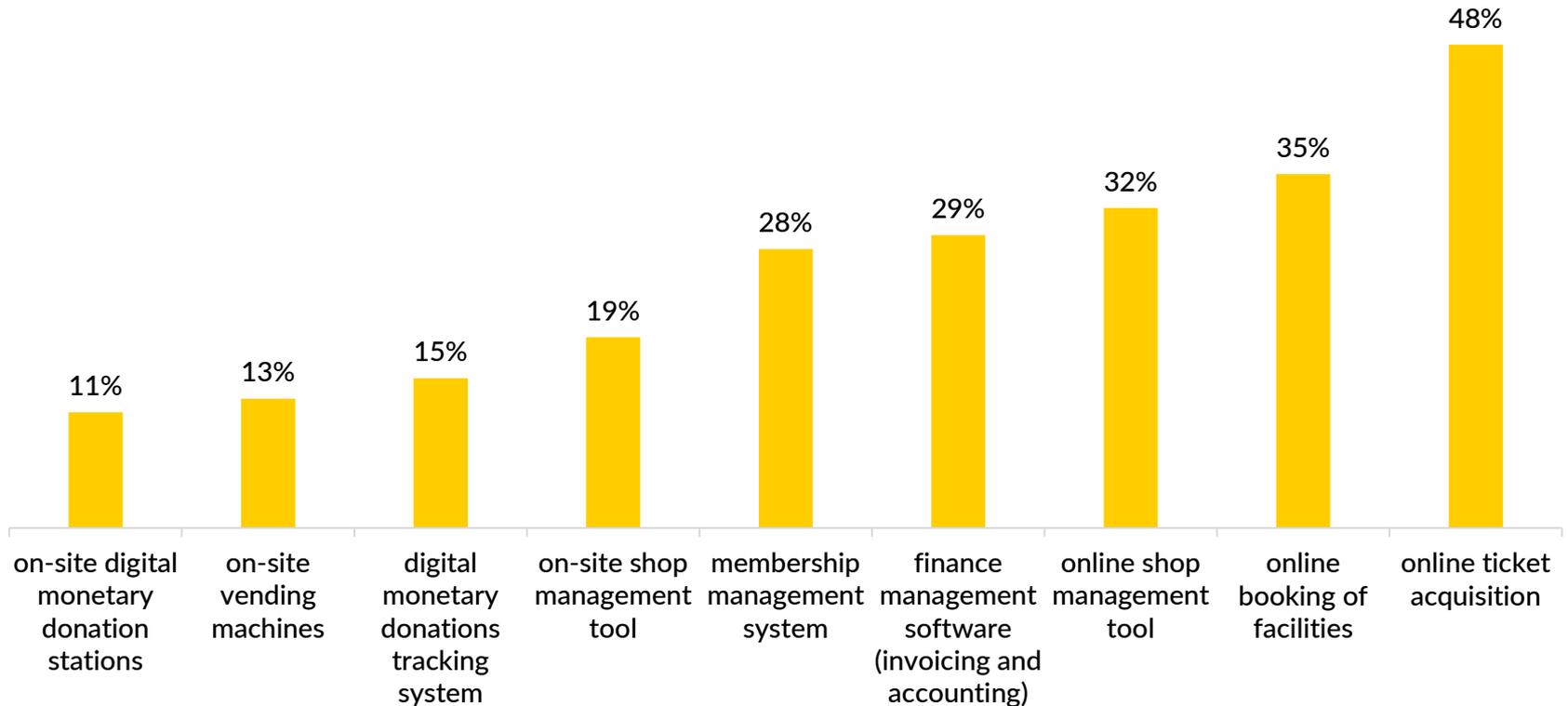
CURRENT USAGE –ACCOUNTING & SALES

When asked about which types of new technologies are already in use for accounting and sales, it was revealed that 67% of the institutions use finance and management software and only 55% already have online ticketing and acquisitions tools. Around one third of respondents have online booking tools for facilities, online shop management, membership management system and on-site shop management. The least used technologies in this area (less than one fifth) are on-site vending machines, on-site digital monetary donation and digital monetary donations tracking.



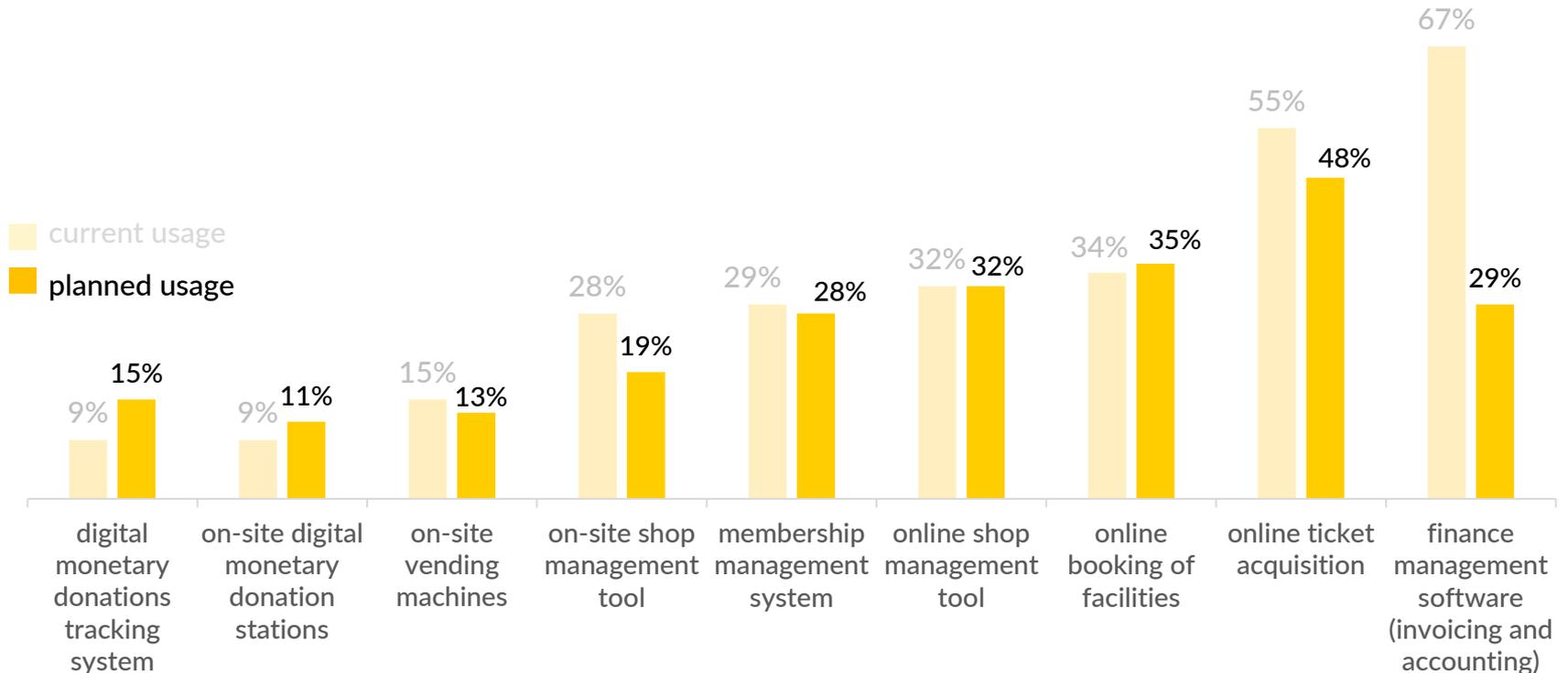
PLANNED USAGE – ACCOUNTING & SALES

Regarding the planned implementation of technology in terms of accounting and sales, 48% of the participants manifest planned commitment to online ticket acquisition tools. In the second place for planned improvement are tools for online booking of facilities to be implemented by 35% of the respondents, followed by online shop management tools (32%), finance management software (29%) and membership management (28%). On-site shop management, digital monetary donations tracking system, on-site vending machines and on-site digital monetary donation stations are all tools planned to be used by less than the fifth of respondents.



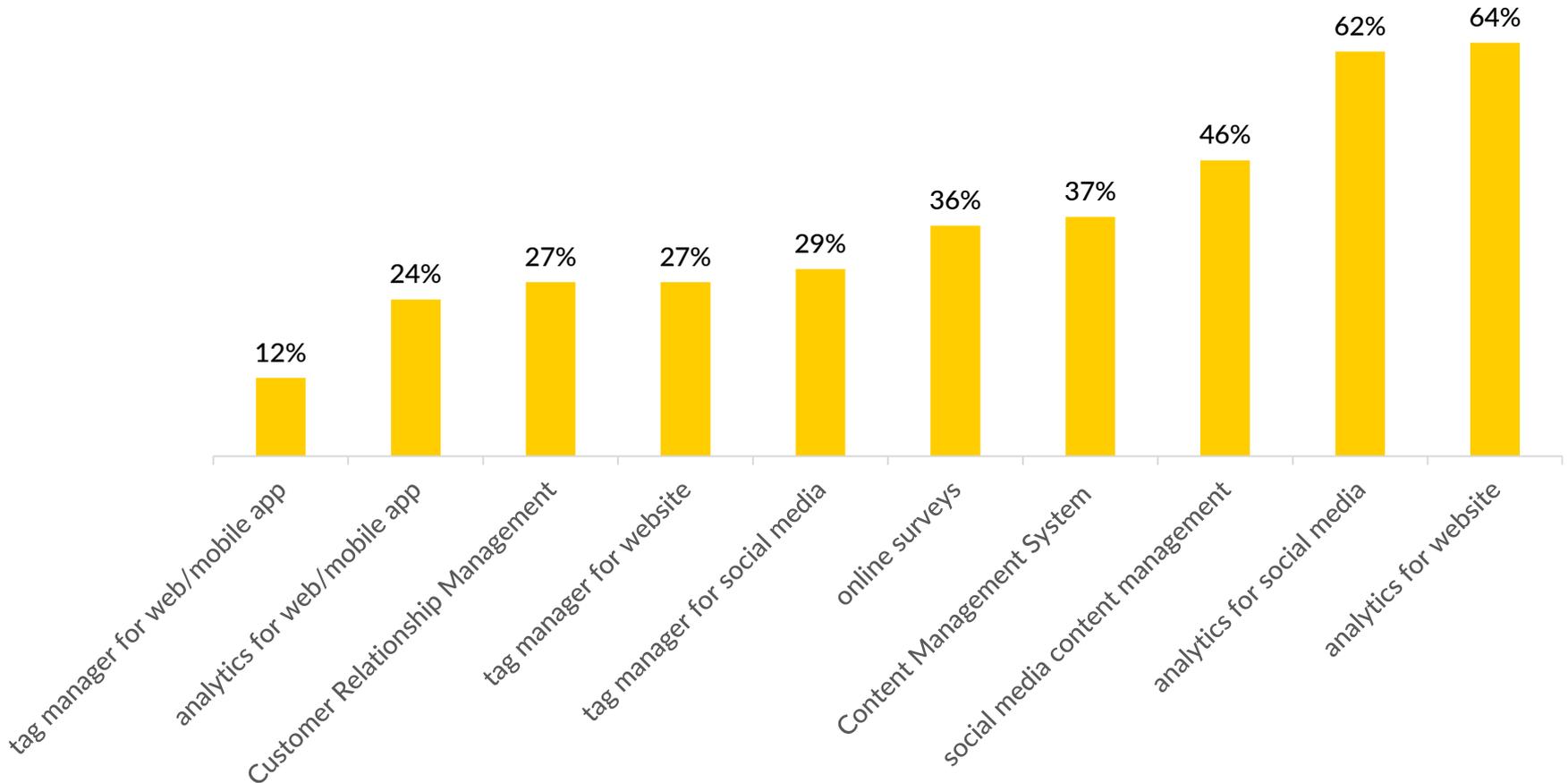
CURRENT & PLANNED USAGE – ACCOUNTING AND SALES

When the numbers for current and planned usage of new technologies for accounting and sales are compared, it is possible to see a significant decrease in the number of new commitments to finance management software, an almost 30 percent drop. This is explained by the current usage rates and the number of institutions that already have these implemented. A slight decrease is also visible in the comparison of online ticket acquisition and on-site shop management tools. The rest of looked-into-tools for accounting and sales show no significant changes when current and planned usage are compared.



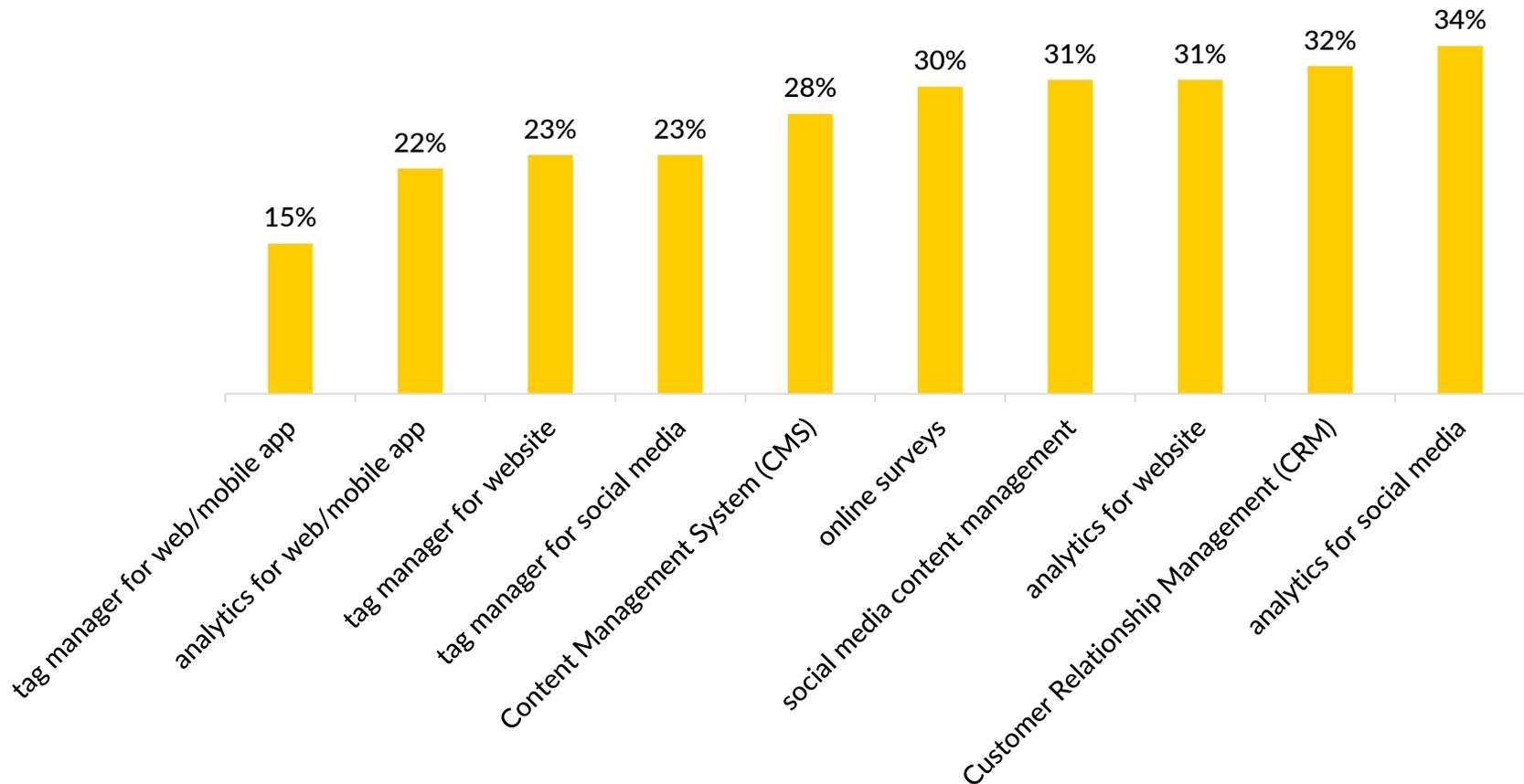
CURRENT USAGE -MARKETING

When asked about which types of new technologies and tools are already in use for marketing purposes, 64% of the respondents answered their institutions are currently using analytics for website and 62% of them use analytics for social media, the two most used tools in this regard. On the other hand, more than a third of the survey participants use social media content management (46%) as well as content management systems (37%) and online surveys (36%) as tools for marketing. Less than a third of the respondents use analytics for web/mobile app, CRMs and tag managers for websites and social media. The least used technology is tag manager for web/mobile app.



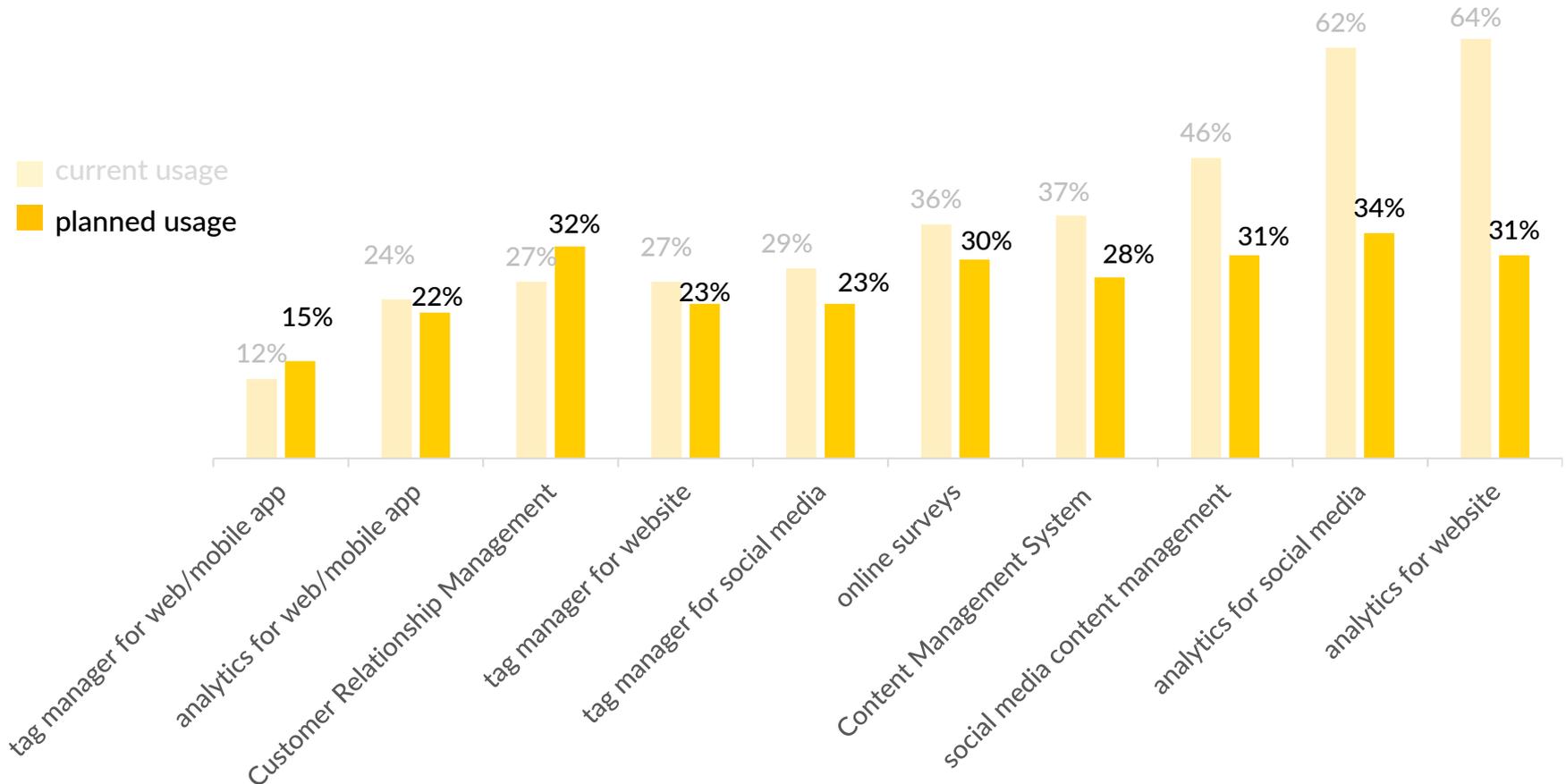
PLANNED USAGE – MARKETING

The survey shows that there is a pretty similar tendency regarding planned usage of almost all marketing related tools that were looked into. Around one third of the participants are planning to use analytics for social media, CRMs, analytics for website, social media content management, and online surveys. Less than one third are planning to use CMS, tag managers for social media, websites and mobile apps and analytics for web and/or mobile app. The tool with the least planned usage are tag managers for web/mobile app.



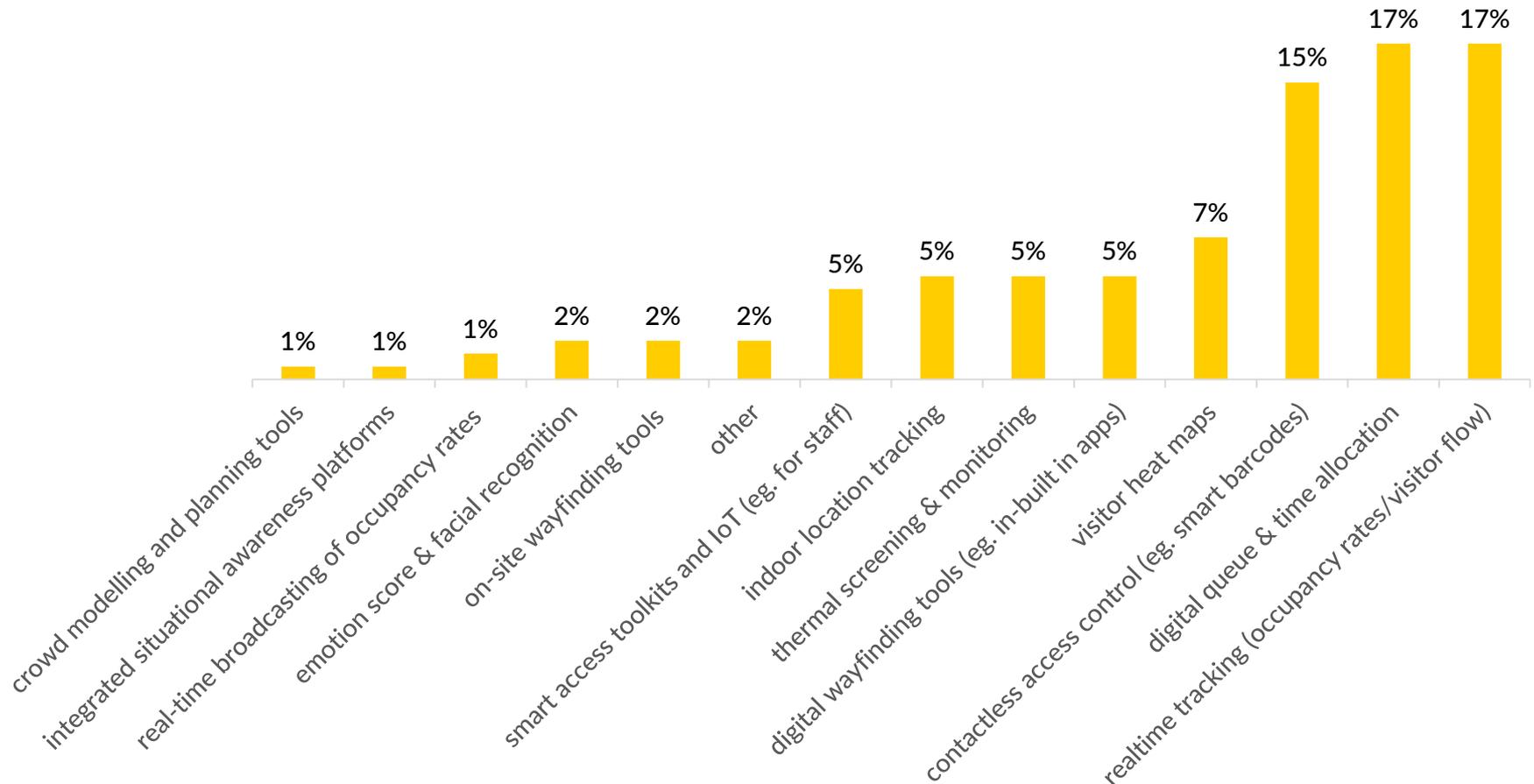
CURRENT & PLANNED USAGE – MARKETING

When the numbers for current and planned usage of new technologies for marketing are compared, it is possible to see an overall decrease in the number of institutions planning new implementations. The most significant decrease is in the new tools of analytics for website and analytics for social media with around 30 percent drop from the current state. For social media content management, CMS, online surveys, tag manager for social media only a slight decrease in the planned usage is foreseen. On the other hand, the expected rates of CRM and tag manager for web and/or mobile apps usage will get slightly higher than the current one.



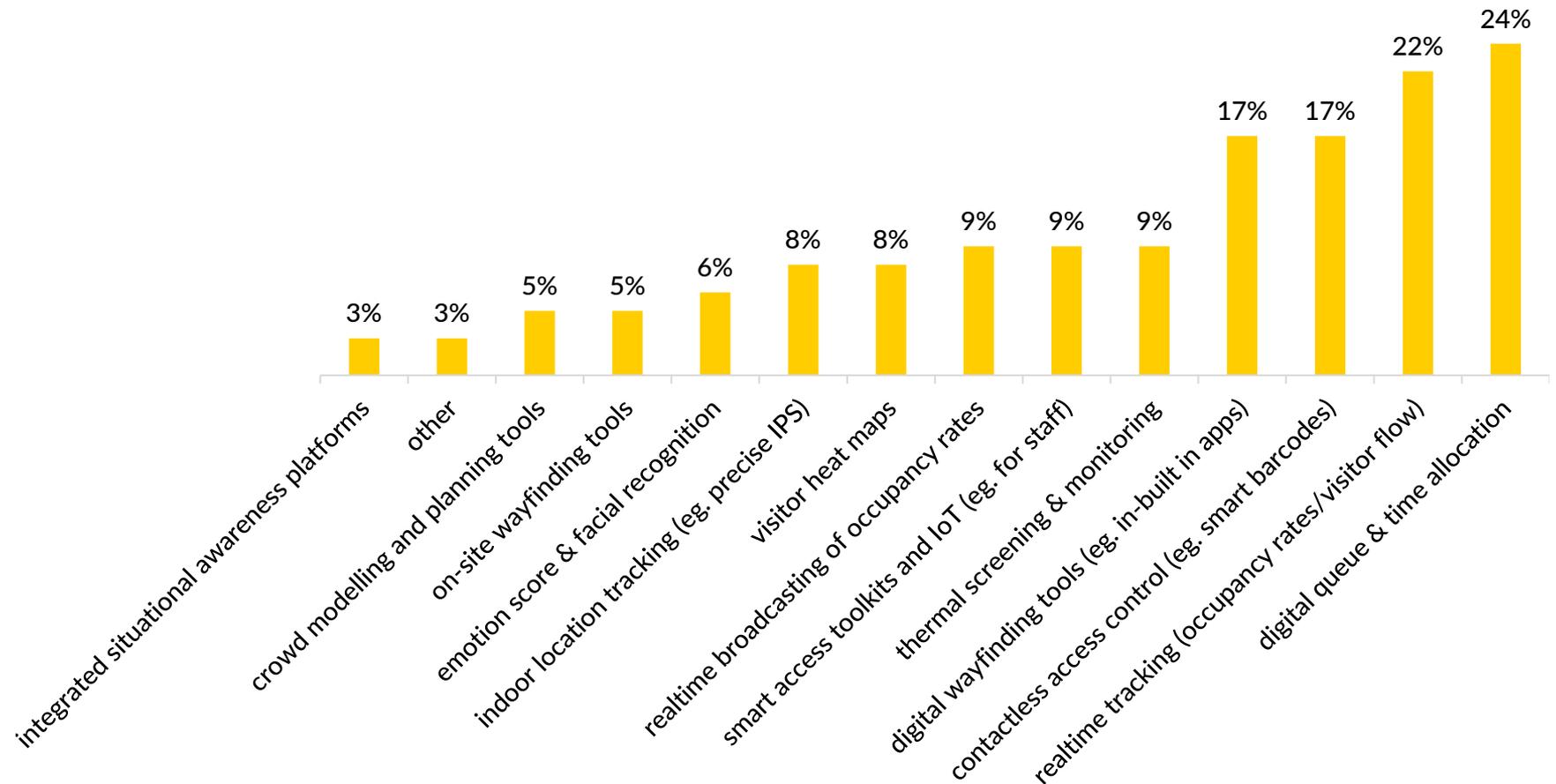
CURRENT USAGE –ACCESS, VISITOR FLOW & CROWD MANAGEMENT

When asked about which types of new technologies are already in use for access, visitor flow and crowds, it was surprising to see how much room remains for these tools in terms of development and adoption. The current usage rates are below one fifth as far as museums report. Still the currently most used tools are real-time tracking of visitors, digital queuing and time allocation as well as contactless access control. Not surprisingly, tools used in order to deal with social distancing regulations and health standards have gained special attention in the last months.



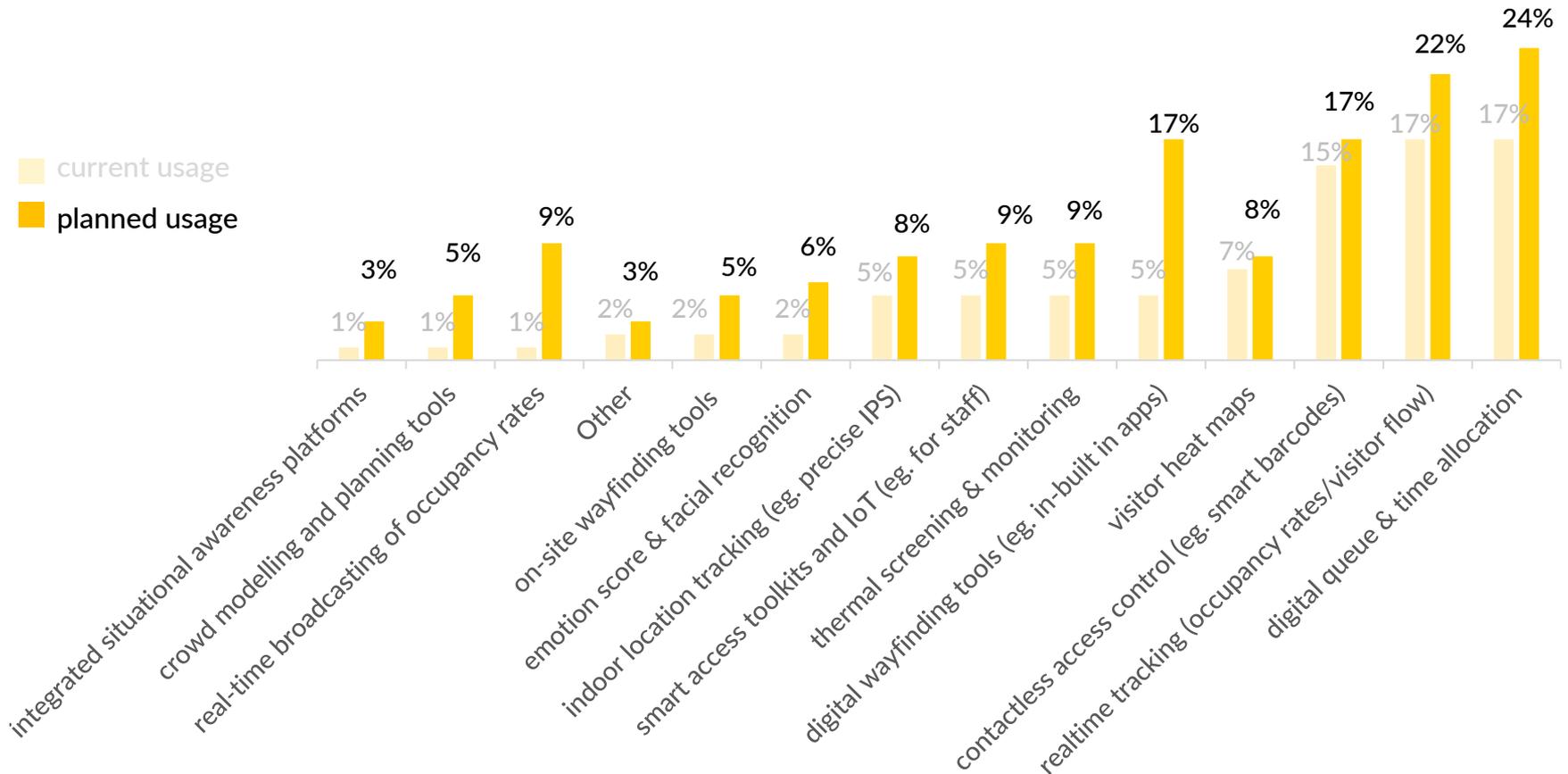
PLANNED USAGE – ACCESS, VISITOR FLOW & CROWD MANAGEMENT

Regarding the planned implementation of technology for access, visitor flow and crowds, it is possible to observe that digital queue and time location, real-time tracking of occupancy rates, contactless access control, and digital wayfinding are tools planned to be used by around a fifth of the respondents. The rest of technologies are planned for implementation by less than 10%.



CURRENT & PLANNED USAGE – ACCESS, VISITOR FLOW & CROWD MANAGEMENT

When the numbers for the current and planned usage of new tools for access, visitor flow and crowd management are compared, it is possible to see a common trend: the planned usage is higher than the current one for all tools the survey looked into. This shows a particular and steadily growing readiness of museums for improvement. The tool with the biggest expected growth are digital wayfinding tools (10%).

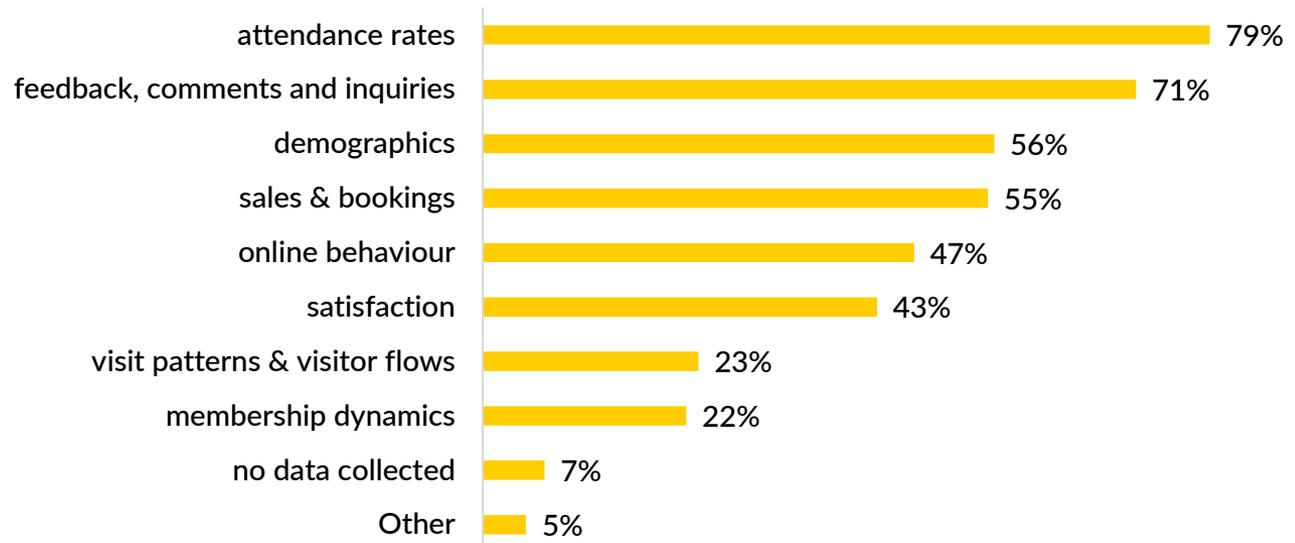


DATA ANALYTICS

When asked which kind of visitor data museums collect, 79% of the survey participants highlighted attendance rates and 71% mentioned feedback, comments and inquiries. Also, 55% of the participants mentioned they gather information on demographics, track sales and bookings.

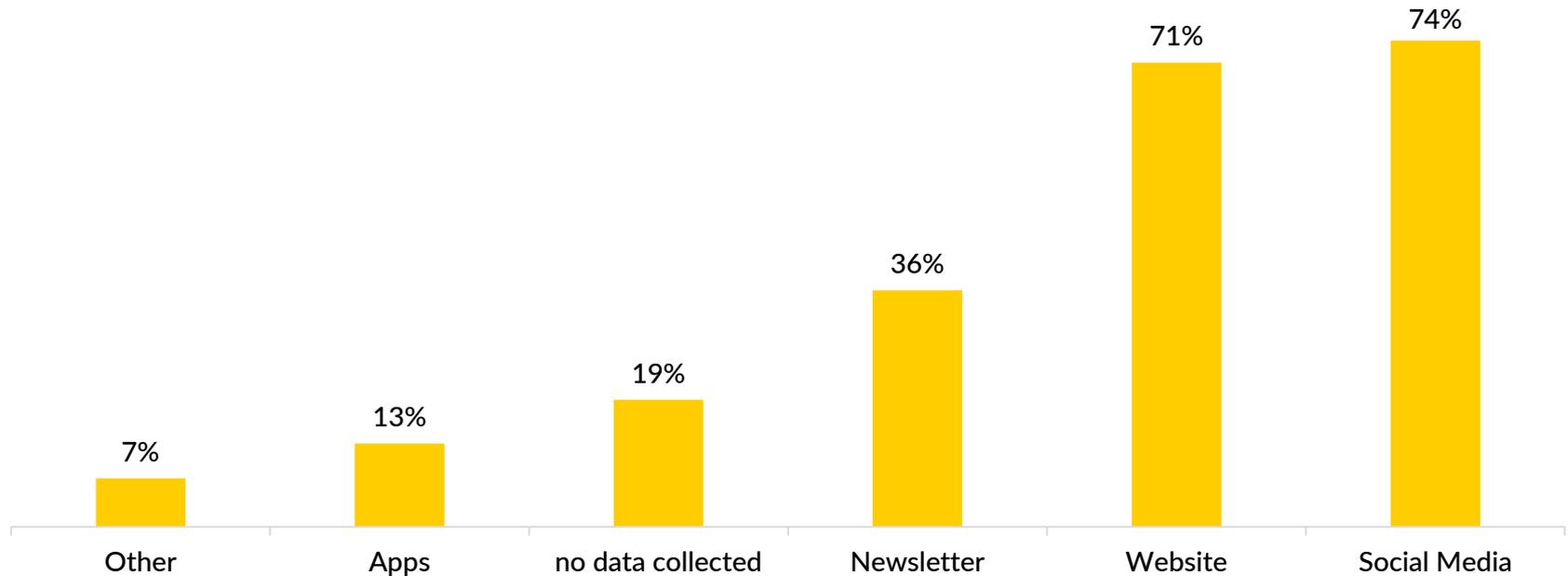
Also quite high are the rates of monitoring online behaviour and satisfaction, 47% and 43% of the institutions respectively. However, less than a quarter of the surveyed institutions collect visitor data from visit patterns and flows, as well as membership dynamics.

Finally, 6% mentioned they do not collect any type of data at all.



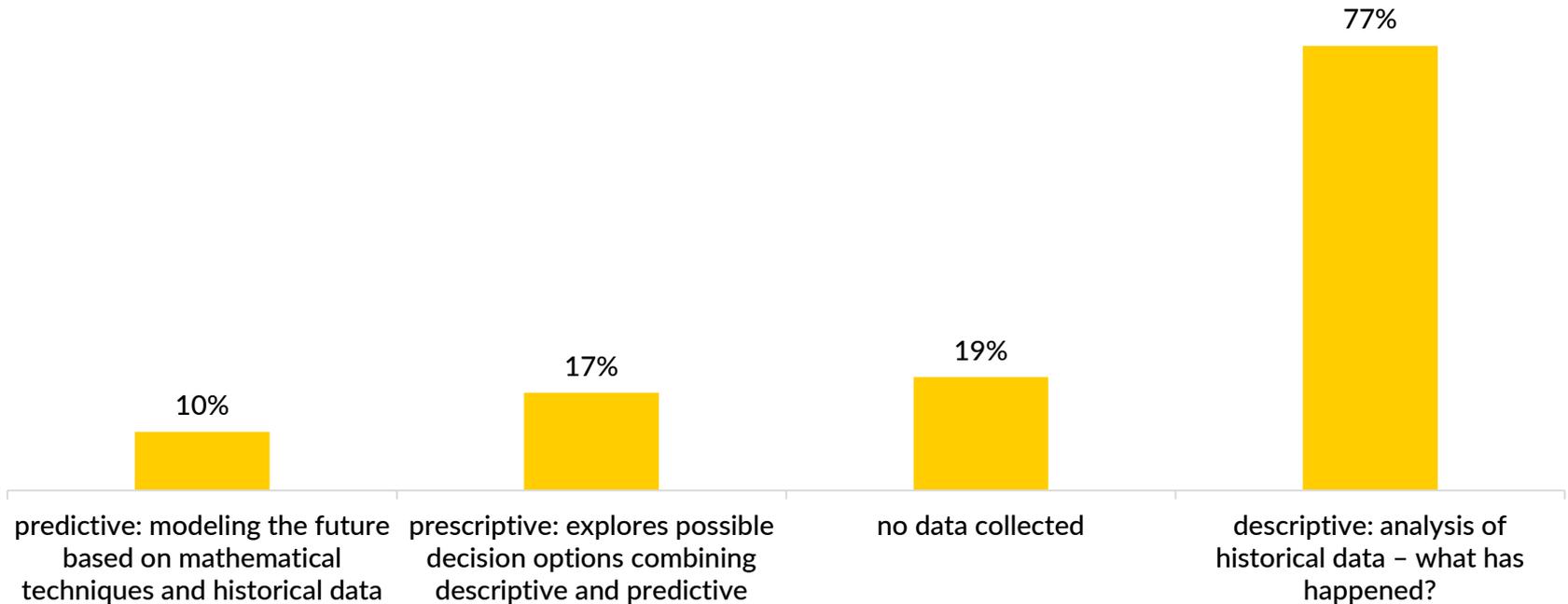
ONLINE VISITOR DATA COLLECTION

When asked about online sources most instrumental for collecting visitor data and behavior patterns, 74% of the respondents answered social media and 71% of them websites, consolidating them as the two most used and efficient online sources for these ends. Newsletters are another relevant source to gather visitor data and is reportedly in use by 36% of the inquired museums. Surprisingly, only 12% of museums work with visitor data through museum apps, whereas almost 20% do not collect any data at all.



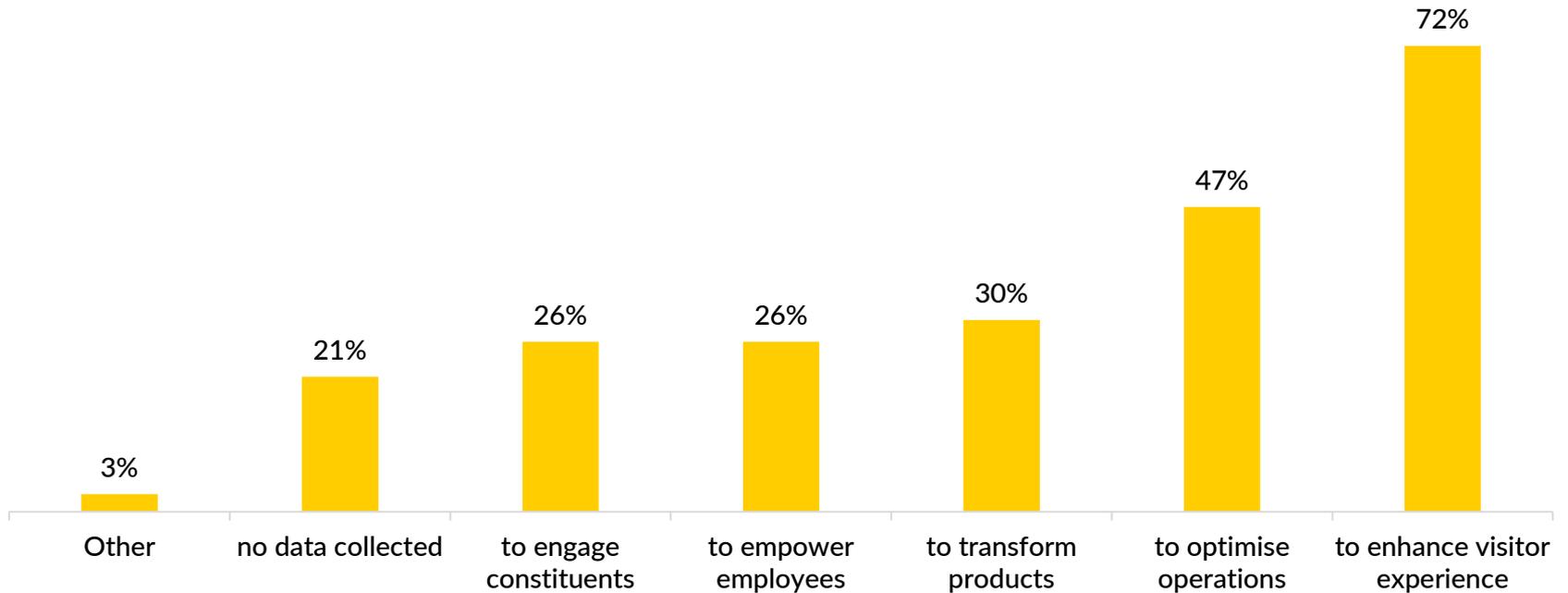
DATA ANALYTICS

When asked about data analytics, 76% of the museums answered they collect descriptive data for the purposes of historical analysis. Less than a fifth collect prescriptive and predictive data (17% and 10%, respectively) while 9% do not collect any data at all.



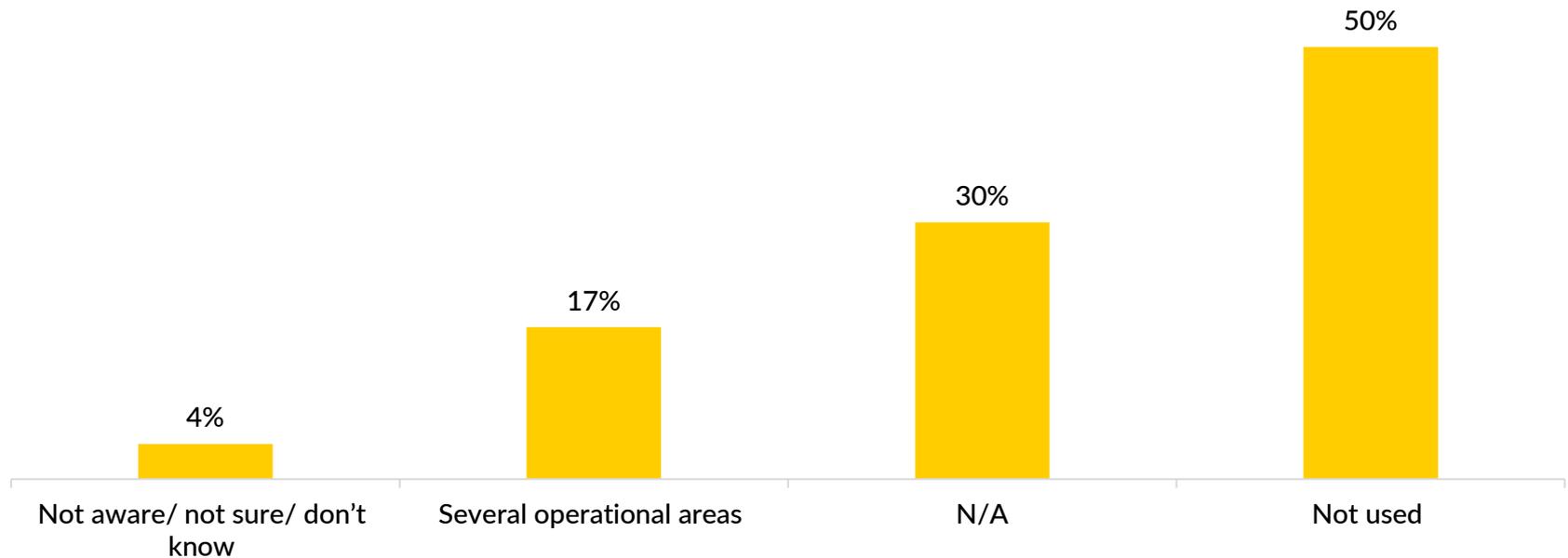
DATA INTELLIGENCE

When asked what do they target their data intelligence at, the two main answers were: to enhance the visitor experience (71%) and to optimise operations (47%). The goals to transform products, to empower employees and to engage constituents each reach almost 30% among respondents whereas 10% replied they do not collect data for any of the suggested purposes,.



DATA INTELLIGENCE

When the participants of the survey were asked in which areas of their institutional operation they use artificial intelligence, 49% answered that they actually do not use it at all, 29% marked that information is not available and 4% are not aware or do not know if it is used. Less than 20% use AI for several operational areas such as collections, administration and management, education and finances.



MUSEUM INNOVATION BAROMETER



Importance of new technologies in the year 2020

compared to the importance of new technologies in the year 2018, 2019 and as expected in three years (2023).

The survey results show that new technologies and innovations have become more important for museums in the year 2020. This trend was highly influenced by the outbreak of COVID-19. The barometer measures the role of technologies and their relevance on a scale from 0 to 10 (from not important at all to extremely important), and the 2020 edition reached a 7,6 rate. It has slightly risen (for 0,6 points) in comparison to the year 2019 and is expected to increase even further in the upcoming three years, reaching 8 points rate (according to the respondents' estimation).

The numbers were gained through the comparison of answers given to the survey's recurrent question "To which degree (0 - not relevant at all; 10 - extremely high) will new technologies contribute to the success of your institution in the future?" For the 2020 edition, this question was split into three, asking about the relevance of technologies at the beginning of the year 2020, i.e. before the pandemic, then during the pandemic and, finally, as estimated for the upcoming three years.



SUMMARY OF THE SURVEY

“Three to five years’ worth of digital commitment has happened within the span of the last year. Digital has really expanded the walls of the museum in a lot of ways.”

***- Franklin Sirmans
Director at Pérez Art
Museum***

As the survey results show, the importance of new technologies and tools has increased compared to the previous year 2019. Almost all participating museums in the survey had to close their doors at least once last year. The main reasons for applying new technologies in 2020 were audience-related: to attract more online visitors, to diversify museum audiences and to increase the relevance of content creation and mediation. However, only 28% of the respondents managed to design new digital revenue sources and still 50% of the respondents do not have their own digital team or relevant department.

From the standpoint of exhibition management and design, audio and video elements, visual displays and projections have been and still remain the dominating tools. However, 3D elements, virtual reality, augmented reality, and especially online exhibitions are on the rise. The most interesting change in terms of technology implementation can be observed in the mediation sector with live streaming, podcasts, web and mobile applications and games and/or gamification elements gaining an increase. A clear grow-into area opens up with the willingness of museums to optimize access, visitor flow and crowd management, with digital wayfinding cropping up as a top priority.

There is no striking change or expected new commitments in the fields of communication, museum management and infrastructure as well as accounting and sales, to large extent because almost all respondents already have digital tools implemented in this area.

**6 significant
developments in
the museum
realm due to
COVID-19**

02

DEVELOPMENTS

In this chapter, we would like to point out some significant developments which took place in the museum sector in the year 2020, mainly caused by COVID-19.

Pivoting to digital

Museums across the world jumped on the digital bandwagon in order to stay relevant and reach their audiences whilst in lockdown. The investments and hours of work which went into creating digital content and to familiarize the staff with new technologies have been worth the effort: the future of museums will be hybrid and even though museums have reopened in 2021, digital formats will keep on alongside physical ones.

New digital revenue streams

After a first wave of free digital offers at the beginning of the pandemic back in March 2020, museums eventually started to look for ways to sustain themselves financially and to generate new revenue out of digital content. The key has been to create unique enriching experiences and qualitatively appealing offers as well as to ensure low entry prices in order to be able to compete with other sources of entertainment and online education.

Working conditions

Museum staff was highly affected by COVID-19 with a dramatic wave of furloughs, income reductions and significant shifts in tasks in order to adjust to and accommodate current needs. A survey conducted by the [American Alliance of Museums](#) also revealed that museum workers suffered a grave toll on their mental health.

Wave of support and solidarity

On the other hand, there was a strong wave of support and solidarity among museum workers as well as institutions to help each other out and to provide an emotional outlet. The number of free webinars and discussions provided, among others, by Cuseum, NEMO and AAM was inspiring and supportive.

Social justice

Social justice protests and anti-racism movements not only caused a political and social turmoil last year, but also placed museums amidst the storm of criticism for sustaining white supremacy, not only in terms of collections but also of personnel. This served as a call to action for institutions worldwide to reconsider how they can contribute to social justice and racial equality.

Audience engagement

A positive effect of more museums going digital was gaining new and more diverse audiences. Museum digital offers became more visible and available despite geography, open for those who could not visit the museum in-person due to various reasons, enabling them to wander through the digital halls and see what museum collections have to offer, oftentimes way beyond the constraints of exhibition displays. Many of us got converted and will remain faithful online visitors in the future.

**3 outstanding
museums in terms
of digital
transformation**

03

QATAR MUSEUM

Building up a digital experience team

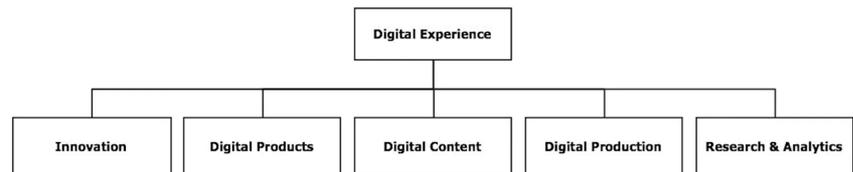
Qatar Museum oversees several museums and numerous heritage sites in Qatar, among them the newly opened National Museum in 2019. The organisation has undergone a physical transformation and expansion and, alongside, a digital one. The digital transformation included establishing an in-house human-centred digital experience team back in February 2020 in order to bundle digital competences and functions and oversee the digital development and strategic planning of the whole multiconstituent organisation. Qatar Museums have just taken the plunge into digital transformation and represent a vivid example on how to build digital from ground up.

In a first step, it was defined what digital really meant for the museums, which structure and processes were of relevance and which digital competences were already present within the organisation. As digital was just emerging in Qatar, it was essential to involve and collaborate with international experts and consultants, particularly to train and upskill local team members. Now, the digital experience team is overseeing five sections that lie within digital: innovation, digital products, digital content, digital production, research and analytics. Currently, the major projects the team is working on are updating the websites, integrating



e-commerce into them, redefining the role of the museum app after the launch of the mobile-optimised websites and evaluating and analysing the museums' digital presence. In terms of organising an international team, it is defined essential to work with management and organisation tools like Trello, Monday, Microsoft Teams, Planner and ClickUP in order to facilitate working across different time zones.

According to the Director of Digital Experience, Shaikha Al Thani, humans are at the centre of digital transformation—it is not only important to invest in the digital literacy of your staff but also to embed digital leadership across the whole organisation, starting with board members and senior management team. She adds that digital transformation does not happen overnight, it is rather a constant evolution and must be seen as a long-term investment. Last but not the least, transparency is key and digital experience departments must actively communicate what they are working on.



National Museum of New Zealand building digital into its DNA

In 2015, Te Papa established a [new digital strategy](#) as part of the five-year programme of museum renewal. The core of the transformation was building digital into the DNA, doing not only the shiny things. Alongside digital strategy, a new digital product development framework was created. Special workshops were held with finance, risk and the executive leadership team to communicate the different governance approaches needed for agile projects as opposed to waterfall-delivered projects.

The digital strategy for Te Papa is foremost focusing on increasing public reach and access to the national collections, stories and knowledge. In 2017, the museum's online collections were re-platformed with a new underpinning Collections API, with the keys given to Auckland Museum, Digital New Zealand and the Department of Internal Affairs. On top of that, a new SaaS Digital Asset Management System has been rolled out to optimise storytelling and communications operations. Te Papa strategically enhances its data analytics as the user experience team conducts a lot of inquiry and sophisticated behavioral research.

Among other priorities of the digital strategy is to enable the effectiveness and sustainability of Te Papa's work through innovation and the use of transformative technology platforms,

and to amplify the co-creation approaches Te Papa has always been known for.

In terms of the latter, in 2016 the museum launched [Mahuki](#), a culture-tech accelerator to partner with the creative tech sector and fast track innovation. Mahuki allowed Te Papa to address their transformation and audience development challenges in a sustainable way, particularly to adapt to a dynamic and increasingly digital world as well as to pursue innovation that would not occur under business-as-usual. Mahuki residents were taken overseas to do market research and to establish connections with potential clients, supported by the museum's truly global networks. The programme held three editions until 2019 and currently the museum is considering how to proceed with the Mahuki brand and vision.

Over the last years, Te Papa has increasingly moved to a concept of the 'digital museum' which came in handy in 2020 to make sure people all across and way beyond New Zealand could benefit from the museum's rich and diverse digital offers. According to the [annual report](#), in 2020 the museum managed to draw more than 3 million visits to the website and the number of digitally accessible collection items surpassed the number of 855,000, which in fact represents 39% of the total collection. © MUSEUM BOOSTER, 2021

Continuous digital efforts since opening

Opened in 2015, the [National Gallery Singapore](#) is a visual arts institution which oversees the world's largest public collection of Singapore and Southeast Asian modern art. Its mission is to be a worldwide acknowledged forward-looking art museum with a forward-thinking approach to technology.

Based on the digital strategy outlined in cooperation with an IT & Digital Advisory Board, the museum pursues to reach the following goals: the adoption of new technology and digital initiatives that enhance visitor experience as well as productivity, to ensure the National Gallery stays ahead of the curve in terms of technology advancement; strategic development and implementation of the IT master plan and digital strategy, strategic partnerships and opportunities, identifying, monitoring and addressing risks related to the overall IT & digital strategy, and continuous assessment of technical choices and planning.

In an interview, Victor Tong, Chief Digital and Information Officer at the National Gallery said that his team was committed to bringing the best-in-class experience to all their visitors since its establishment in 2018. The milestones of their work were to deliver a frictionless, hassle-free navigation through the exhibition halls, the redesign of the ticketing system and gaining international

audiences. Mr. Tong points out that the Gallery is constantly exploring ways to transform itself into an AI-driven organisation, since the latter holds a tremendous potential. A practical example is the AI sales assistant which automates sales email for the venue rental team and has increased the sales conversion by over 40%.

In autumn 2020, the museum partnered with Mullen Lowe to develop an innovative digital ecosystem, to optimise the Gallery's digital solutions and to significantly enhance visitor experiences. Central to the ecosystem is [#GalleryAnywhere](#), an online collections search portal that allows anyone to browse and search for artworks, library and archival content easily and from any place on the planet.

Last but not the least, data analytics plays a crucial role in the evolution of the museum. The digital department is using different metrics to track their progress and evaluate the efficiency of adopting technology and data analytics tools to better understand visitors. A big challenge as well as opportunity for digital officers today, according to Tong, is to keep abreast of the latest technology but remain alert to discern the good from the bad out of the ever-growing plethora of available technological opportunities to ensure quality investment in the institution.

EXPERT COMMENT

DIGITAL TRANSFORMATION



In your opinion, what should be a long-term lesson-learned for the museum sector from the year 2020 and the pandemics? How has it affected and should further inform digital transformation of museums and their strategic thinking?

"Two key-lessons can be learned from 2020. Firstly, museums can be agile. When approaching future projects, just remember 2020 and that it does not necessarily need

Photo by Catherine Devine

a crisis to be/become agile. Are museums getting all the value they think they are from taking the default position of cautious?

And the second question worth asking oneself, what is the museum beyond its physical building? The pandemic has only highlighted the already present necessity for cultural institutions to diversify the channels that they inhabited and employed as well as their financial sources. This implies going beyond the physical experience, and thinking about digital experiences beyond web sites.

Also, as lifelong learning programs delivered virtually saw vast increase in audiences, I hope that museums will in their turn acknowledge the capacity of digital to increase access and to complement physical experiences. Online experiences are not necessarily competitors to the onsite ones."

How can museums conceive technology-driven transformation in a sustainable way?

"Museums need to reframe technology and see it as a service and a utility, rather than

as a showpiece. To do this, museums need to diversify their employee base and include those who are technology literate. They also need to recognize that technology changes rapidly and it drives more access and reduced cost to leverage. By rethinking technology as a utility and not as a showpiece, institutions can achieve a more sustainable impact on fulfilling their missions. This also implies that museums need to resist the urge to "code" their own solutions and instead rely on platforms, i.e. how almost all solutions are delivered today to every industry. This reduces the cost, increases, and also aligns with the ability of technology to transform and enable sustainability, as it does not rely on a single museum's capacity to keep updated."

– **Catherine Devine**

**Business Strategy Leader
Libraries & Museums
Microsoft**

3 striking social media campaigns

04

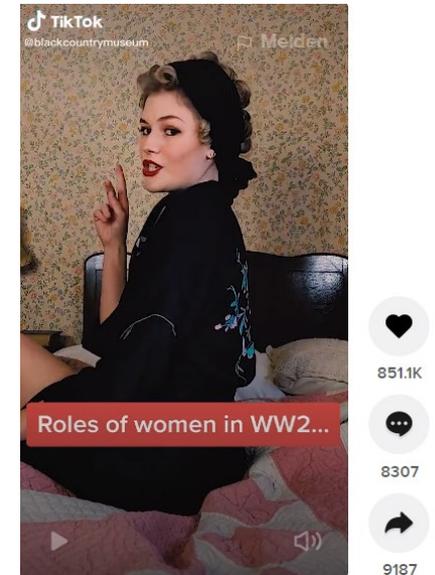
TIKTOK SUCCESS

Black Country Living Museum

When communication manager Abby Bird put her museum out on TikTok in August 2020, she did not expect it to become the most followed museum account on the platform by the end of the year. Up to date, the museum has racked up more than 870,000 followers, 13 million likes and more than seven million views to some of its videos. It is no surprise, that it was named one of TikTok's 100 top UK accounts for 2020.

The [Black Country Living Museum](#) is an open-air attraction revived by actors interpreting the daily life in the Black Country, a region that was at the epicentre of Britain's industrial revolution. The success of the museum's [TikTok account](#) resides in short video clips featuring re-enactors in historic garments, a singular background scenery fit for film production, smart storytelling and tincture of the local vernacular. The museum thus developed an efficient and meaningful format to gain younger audiences.

The Black Country Living Museum was chosen to take part in the [TikTok Marathon #MuseumMoment](#) on the International Museumday 2021, joining the Palace of Versailles in France, the Rijksmuseum in Amsterdam and the Victoria and Albert Museum in London in a globally livestreamed museum tour on TikTok.



“Part of us being accessible as a museum is being in the spaces that young people are digitally.”

– Abby Bird, Communications Manager

EXPERT COMMENT

SOCIAL MEDIA



What were the major challenges regarding social media for museums in 2020?

“When it comes to social media, the main challenge for museums will be ensuring that they have a fully supported and well-resourced social media function. Social media is increasingly becoming one of the most important aspect of our communications toolkit, but it is extremely resource intensive. I’m also a big believer that quality creative can’t be rushed, and so trying to be everything to everyone without adequate support is a recipe for disaster. I also think we need to find way to reduce, or at the very least acknowledge, the cultural gap between people making the decisions in museums and gen z, because at the moment it’s a whopping big chasm.”

Should museums jump on the TikTok bandwagon and why?

“The question on everyone’s minds right now is, “should my museum be on TikTok?” and the answer (for me at least) is, if you’re adequately resourced and a TikTok user yourself, yes. If those two things aren’t true, then I would advise you solve those problems first. If it’s difficult to make the time to create content for one of the biggest social media platforms, then that’s a huge red flag and I would argue that you are – by virtue – under-resourced”

– Abby Bird

**Communications Manager
at Black Country Living Museum**

ARTIST-IN-RESIDENCE

Musée d'Orsay

The concept of an artist-in-residence is widely known in the artworld, but can this concept be adapted to social media? Musée d'Orsay showed us how to do it at the beginning of 2020. The museum partnered with artist Jean-Philippe Delhomme to bring more attention to many of the artworks in the collection with a bold move. Every Monday over the course of the entire year, Delhomme was given full artistic control over the official [Instagram account](#) of the museum to do just what he pleased.

The idea behind the project was that [Delhomme's illustrations](#) should present old masterpieces in a new light and put renowned artists of the 19th century in a contemporary context by giving them a voice on social media. The idea is not to desecrate works, but rather to draw attention to a particular moment in the biography of an artist, some issues or particular novelty of an artwork, and through comments of the artist's contemporaries, fictitious or not, to evoke the adhesions or antagonisms they aroused at the time. In January 2021, the museum announced the prolongation of the project until the re-opening of its venues. Without any doubt, the illustrations of Delhomme played their role in the increase of followers that Musée d'Orsay's Instagram has experienced, from 800,000 at the beginning of 2020 to 1,2 million today.

“The concept is to think about what it would have been like if late nineteenth-century artists had been on social media. How would they have behaved if they had had their own Instagram accounts when alive.” – Jean-Philippe Delhomme



HEAD OF SECURITY BECOMES A SOCIAL MEDIA STAR

National Western Heritage and Cowboy Museum Oklahoma

The life of Tim Tiller, the Head of Security at the [National Western Heritage and Cowboy Museum](#) in Oklahoma, took an unexpected professional turn in March 2020 when the pandemic hit. The whole museum staff had to stay home, only security workers, deemed essential by the state, could remain onsite and were the only interactors with the collections at that time. This inspired head of marketing Seth Spillman to hand over the museum's Twitter account to Tim which resulted in a huge success.

The mustachioed down-to-earth security officer charmed the world with his dad jokes and his clumsiness when it comes to social media, a terrain where he had no experience at all. The risky endeavour breaking all the sacred rules of social media, according to Spillman aka "Seth from Marketing" resulted in a huge success. The museum's 8,000 Twitter followers grew to a staggering 300,000 in less than five months, and engagement increased by 385,000 percent. #HashtagTheCowboy was picked up by customers, celebrities, and even Disney on social media, helping this small institution to gain national media attention at a record pace and culminated in an exclusive [exhibition](#) with the same title displaying Tim's posts, security guard uniform, and fan letters. It was truly one of the most talked about and covered social media campaigns of the year 2020.

"We broke all the rules. We didn't reply [to followers], we posted crummy pictures, we showed merchandise without posting a link, we took Sundays off. In a word, we did 'different,' and 'different' is what made it authentic."

- Seth Spillman, Head of Marketing



**4 digital revenue
ideas**

05

LONDON TRANSPORT MUSEUM

Virtual tours about fascinating and secret spaces in London

During the lockdown, the London Transport Museum developed an alternative to its best-selling guided tours through the subterranean capital of the UK shifting them online. And they continued being a success! It was not only the format, but also the content and the added value that played in. The museum was now able and happy to present London stations and other spaces with an extremely restricted access, where no public onsite tours were possible before. Thus, the museum managed to entice previous attendees as successfully as to attract new visitors.

The tours are designed for individuals and groups up to 50 persons and offer a single-time livestreamed event. Tickets are available online and cost 20 pounds. Participants get to learn about a specific station or area through photos, videos and never-before-seen footage from the collection alongside comments from an expert guide who reveals facts and stories about the London's underground network past. As tours are live events, visitors can ask questions in a special Q&A session afterwards.

So far, the tours have performed really well and the museum even had to include additional tours at some point due to the increasing demand and high booking rates. No wonder, that the Hidden London tours have been shortlisted for the Museums+Heritage Awards 2021 in the category *The Best Use of Digital UK*.



“Without even stepping outside their front door, clients will be able to experience an atmospheric subterranean world while an expert guide talks them through the rich history of the Capital and its Underground.”

***- Ollie Burton, Business Development Manager,
London Transport Museum***

THE BARNES FOUNDATION

Online classes on art

The Barnes Foundation is well known for facilitating art education over the course of the last century. It was COVID-19 that disrupted, although shortly, the long-standing endeavour of the institution. Actually, the foundation had been considering offering [online classes](#), even before the pandemic started, but the virus served as the last needed push wiping away persistent doubts on profitability and engagement rates. The idea was put into practise and one year later, the Barnes Foundation finds itself leading the field of online art history education in the US.

Besides the huge success and positive feedback from students, virtual classes were a clear financial success. The institution has tripled enrolment for its education classes generating an unprecedented amount of revenue. About one-third of the previous year's adult education revenue was reached already within the first month of shifting to online. Overall, the earnings have reached more than \$650,000 since its launch last March—more than double the revenue that in-person classes had generated in 2019. Increase was reached not only in revenue, but also in outreach, gaining more than 2,800 students from 39 states and six countries. Alongside students, the Barnes has also gained international curators and art historians to contribute.

Of course, multiple challenges came along, like technological or connection issues, but the IT team was always on it and found workarounds. The education team decided to be flexible in terms of which platform to use and followed the preferences of their audiences using YouTube, Microsoft Teams or Twitch. In order to provide deep dives into paintings, the institution used [Deep Zoom](#) a Microsoft-developed technology that lets users zoom into images and move around via drag and drop.

Although the museum is open again, the Barnes Foundation will keep on offering a virtual component to its adult education programme.



ONLINE / ART IN CONTEXT

Online Class: Fakes and Forgeries: The Art of Deception

Thursdays, September 2 – September 30, 2 – 4:10pm

This course looks at forgeries—how they're made and why, and how scholars distinguish between fake and real.

ONLINE / ART IN CONTEXT

Online Class: Michelangelo in Focus
Fridays, September 3 – September 30, 10am – 12:10pm

Take a deep dive into the creative process and masterworks of the Italian sculptor, painter, architect, and poet.

ONLINE / MATERIALS AND TECHNIQUES

Online Class: Modernist Watercolor Techniques: Cézanne and Demuth
Fridays, September 3 – September 24, 1 – 3:10pm

This class explores the working methods of two virtuoso watercolorists in the Barnes collection: Paul Cézanne and Charles Demuth.

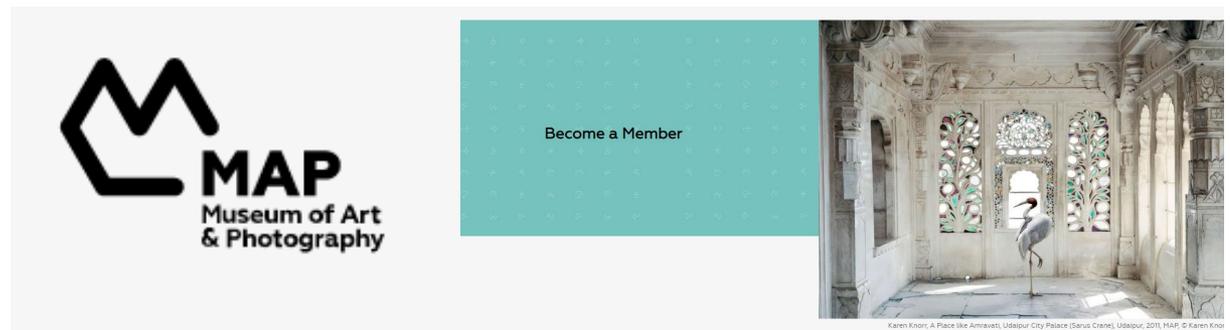
THE MUSEUM OF ART & PHOTOGRAPHY BANGALORE

Online Membership

One of the biggest museum projects in India is about to open later in 2021– the Museum of Art & Photography situated in the city of Bengaluru. Although the pandemic has delayed the physical opening of the museum building, the decision has been made to open the museum at least virtually. This also allowed to gain some revenue through the specially created one-in-all online membership. As a self-proclaimed digital-first museum, the MAP Online’s mission is to nurture a community for the arts, to build an ecosystem of support and to provide learning opportunities for all.

The digital membership includes complete access to all curated online exhibitions that are expanded every month, priority access to online events, full access to the online collection with search functionality, unrestricted access to the original curated content such as video library, unlimited downloads from *DiscoverMAP* packs for children and other digital learning goodies. Additionally, the membership offers a discount on all MAP merchandise in the museum shop and, once the museum is physically open, preferred access to the museum, events and café.

As a special treat, the museum offers a 90-days free trial membership for those who are interested in the content, but not sure yet if they want to become a member.



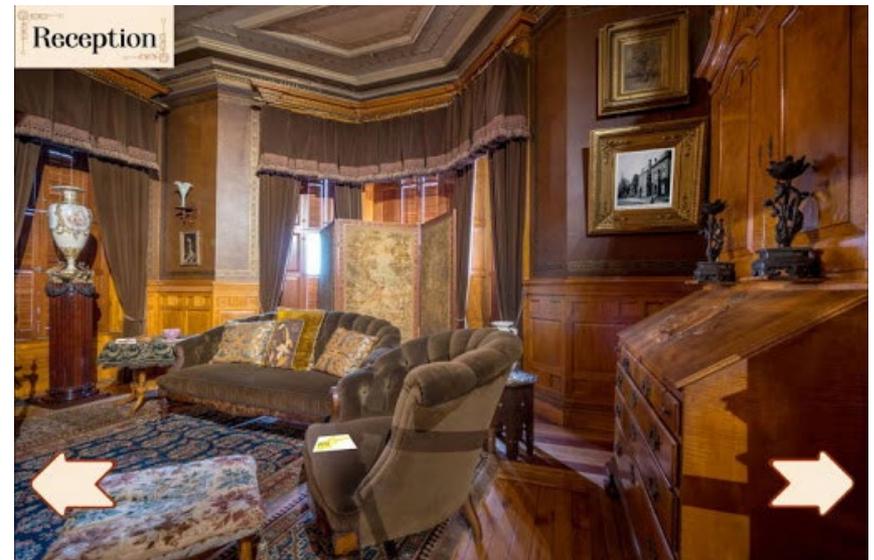
NEWARK MUSEUM OF ART

Playful virtual experiences

As many museums, the [Newark Museum of Art](#), located in New Jersey, USA, used the pandemic to pivot towards digital, a field that they previously had very little experience in. The museum staff started with lecture-based presentations and live online events on Zoom and Facebook. But soon they came up with a more playful approach to engage their audiences. The museum developed a set of participatory formats. For example, *Art Olympics* is an audience-driven competition between museums in choosing an artwork that fits best to a preselected category and provides an explanation why in one minute. *Battle of the Cartoonists* is an election-themed drawing competition between three professional cartoonists and *Art Roast* is the title of a sketch comedy night, where original jokes and sketches based on the museum's collection are presented by comedians.

Still the most engaging format was the virtual experience *Escape from the Ballantine House* – an immersive escape room game based on a historic house which is now a wing of the museum. The game invites visitors to collaborate in cracking codes, solving puzzles and finding clues in order to steal Ballantine's ale recipe and escape from the house. Zoom was chosen as the platform to host the game, smartphones were used to detect clues and visitors teamed up in breakout rooms.

The aim of the museum was first and foremost to create a fun and entertaining experience. The educational aspect came in second. Nonetheless, according to the museum the games all have implicit and organically in-built educational value. Everything in the game is connected to the history of the place, you can explore its physical spaces virtually, click on objects and furniture and learn through playing.



4 smart tools

06

CLIPDROP

Copy & paste the real world

The new tool *Clipdrop* offers a reversed use of AR. It is an app developed by an artist, designer and programmer Cyril Diagne, former resident at *Google Arts&Culture*, and Jonathan Blanchet. Previously known as *AR Copy & Paste* in its development phase, the app was officially launched in October 2020 and brings the physical world into the digital.

So how does it work? Point your phone at the object or text you want to copy and drag it over to your desktop to import it into documents as cropped objects. It is as simple as that and makes emailing images to yourself or cutting out objects in Photoshop obsolete. The app is compatible with a variety of software and websites including Photoshop, Google Docs, PowerPoint, Figma, Canva and Pitch.

Enhanced by machine learning, the app allows to separate the foreground object from the background. It detects where your phone is pointing at your computer screen and in less than six seconds you can copy an image of the object in the physical world and paste it in a document. For anyone who wants to try it out, *Clipdrop* is available on Android, iOS, macOS and Windows for a moderate monthly or annual fee.

Instead of projecting digital images into the physical world, it brings the physical into the digital.



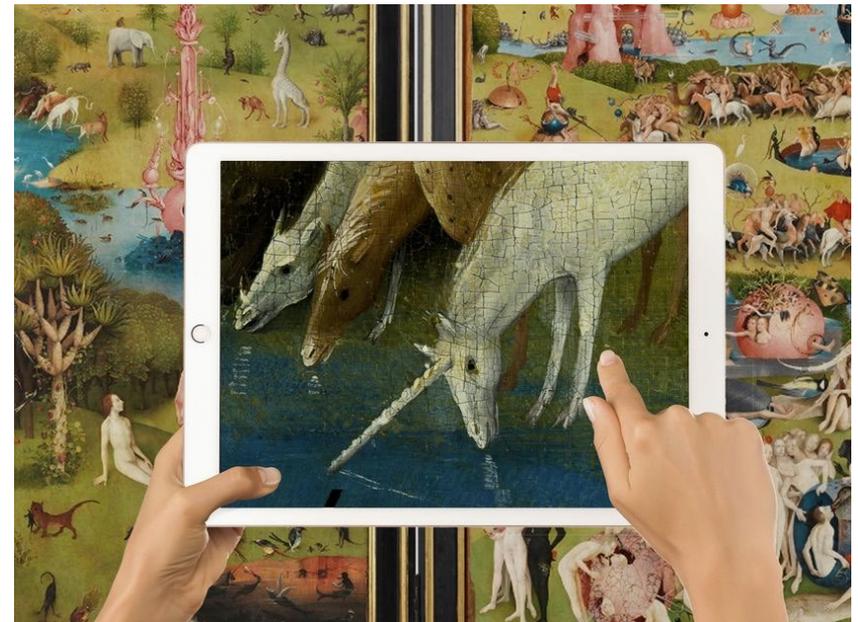
SECOND CANVAS

High-resolution images & interactive storytelling

Second Canvas is a cloud-based platform that helps museums to build appealing multimedia experiences by combining high-resolution images from digitised collections with interactive storytelling. Museums can upload their images to the platform and convert them into a zoomable format, easily create narratives and navigation, edit and compile additional content and media, such as images, audio, video, text or extra layers, that might be linked to specific details in the artworks, and eventually publish their content on multiple platforms and for different devices, such as websites, museums' own apps or the *Second Canvas* app, iBooks, digital exhibitions and much more. It is an easy-to-use app that does not require any sophisticated technical or design skills.

The app can serve as an augmented experience that complements the physical experience onsite, as a digital exhibition to reach remote audiences, and as a digital alternative while museum artworks are off display.

Second Canvas is widely used by museums in Spain, such as Prado and [Thyssen-Bornemisza](#) to name just two, but also internationally, by institutions such as the Mauritshuis in the Netherlands, SMK in Denmark, Museum of Fine Arts Boston or Yale University Art Gallery in the USA. It was developed by *Madpixel*, a company specialised in digital products and services for museums and institutions managing artistic heritage.



THE MUSEUMS & AI NETWORK

Planning Toolkit

Museums and other cultural institutions have already been working with visitor and collection data for some time and the urge will only grow in the future. Data aggregation and analysis help museums to gain deeper insights into their audiences, develop better offers and services, evaluate their performance and relevance, understand trends and process feedback. But how to actually distil relevant and timely insights from ever growing amounts of data?

Using AI and machine learning is the answer. This is where The Museum & AI Network comes in. The network was founded in 2019 by Dr. Oonagh Murphy, Goldsmiths, University of London and Dr. Elena Villaespesa, School of Information, Pratt Institute, with the aim to examine current practices, challenges and the potential of AI application in the museum field.

The other goal of The Museum & AI Network is to provide a platform where museum professionals can reunite to talk about the possibility and challenges of Big Data and AI technologies, share their experiences in high profile events, workshops and conversations and shape the practice.

Joining the efforts of professionals from 15 museums, and six universities in the UK and US, the network has developed a toolkit to support museums in comprehending and engaging with AI technologies, a tool to help develop robust project plans when it comes to data collection and analysis. It provides a basic overview of the hurdles and benefits related to the usage of AI. It also provides two worksheets, one focusing on AI capabilities framework and the other on AI ethics workflow. The toolkit is openly available on the website of the network.

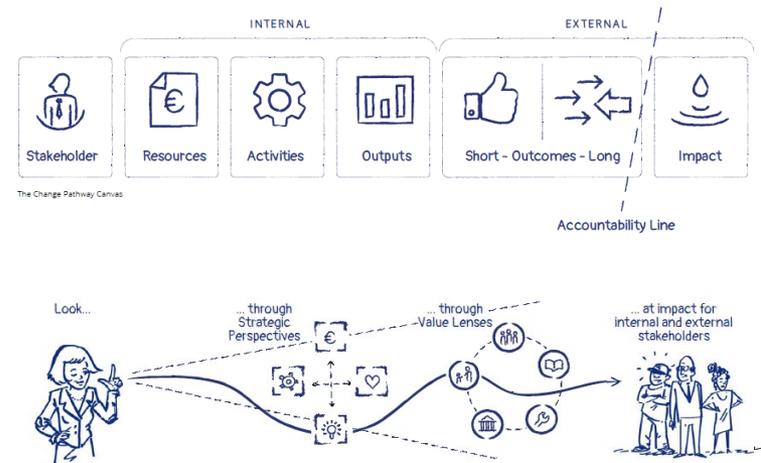


EUROPEANA

Impact Playbook

It can be a tough task to measure something as abstract and ambiguous as impact, especially the impact of museums on social cohesion, behavioural change and economic innovation. Impact measurement is way more intriguing than measuring daily sold tickets or website users, because impact is more meaningful and really reveals the effect cultural heritage has on everyone's life.

To make the process easier, Europeana has developed the [Impact Playbook](#), a guide to help cultural heritage professionals to develop a common language to talk about impact, identify impact for their institution and measure it. The Impact Playbook consists of different phases: phase one and two focusing on the introduction to the language of impact assessment, strategic choice facilitation and data collection data interpretation. The final two phases (phase three and four) of the Impact Playbook are still in development but will deal with developing, narrating and sharing institutions' impact stories and the evaluation of impact processes. The playbook offers tools, theories, workshops with detailed walkthroughs and homework assignments for your team to get started with assessing your institution's impact. The advantage of the Impact Playbook is that it is not limited to the cultural heritage sector, but can be applied anywhere where impact assessment is needed.



4 great ideas

07

DIY EXHIBITS

Smithsonian National Museum of Natural History

The museum has created free, digitally delivered print-on-demand [exhibition toolkits](#) consisting of graphic panels and additional resources that fit any budget and space.

The toolkits were created back in 2018 when the museum sought to increase awareness about epidemics and viral diseases in a connected world and for the centennial of the 1918 Spanish Influenza outbreak. The museum was looking for a way to extend the exhibition, reach both national and global audiences with an affordable and easily adjustable tool and format to generate a far-reaching discussion.

As a result, the *DIY exhibition* format was tailored. The museum selected core information and compelling stories for a series of print-on-demand panels, customisable templates, multimedia and interactives, 3D virus files, promotional materials, and an extensive resource guide with educational programming. The advantages of the toolkits are their flexibility and adaptability, particularly when it comes to space. Beyond displaying the title panel and one pre-designed content panel, a venue, independently of its size, has full creative liberties on what to display and how to do so. Such in-built customisation allows context-specificity and to best adapt

the content to local communities, include stories of relevance to ensure lively participation and discussions. An inclusive design with all materials accessible to multigenerational, multilingual, and otherwise diverse audiences helps to foster outreach. Also given that the toolkits are free of charge, they are suitable to any budget – even a basic classroom print-out is an option.

The toolkits were used in more than 45 countries by a broad range of institutions, from small museums to large-scale science centres, hospitals and community centres with the goal to inform about the topic that was never as urgent and relevant as in 2020.

Given the huge success of the initial endeavour, the museum was encouraged to develop and offer two additional exhibition toolkits: *Dig it! The Secrets of Soil* and *Genome: Unlocking Life's Code*.



MUSEUMS & GAMING

Meet younger audiences where they already are – Animal Crossing

Museums have always relied on games or ludic components to engage new or bigger audiences. But 2020 showed new ways for cultural institutions and the gaming industry to collaborate and lure in younger audiences.

The life-simulation game *Animal Crossing: New Horizons* for *Nintendo Switch* saw an unprecedented popularity during lockdown, gaining over 13 million players. The game invites players to create their personal dream island lifestyle from the comfort and safety of their homes. It also features an in-game museum with its own owl curator named Blathers. The game allows the integration of external images which can be collected and used to pimp up your virtual home or even clothes.

Some museums like the [Getty](#), the [Cincinnati Art Museum](#) and [The Met](#) were quick to jump on the bandwagon and added their collections onto *Animal Crossing*. [Thyssen-Bornemisza](#) in their turn has taken the whole *Animal Crossing* experience to the next level by recreating the museum virtually and even offering short guided tours through its halls.

The museums used the open-source [Animal Crossing Pattern Tool](#), a site where users can upload or draw images and generate a QR code to connect their collections with the game.

For [International Museum Day](#), Nintendo also invited players to celebrate this special day online by participating in a special two-week stamp rally between May 18-31 in order to gain special rewards.

It is a fun and low-cost way for museums to engage with millions of players worldwide and bring them closer to arts and culture.



CURATOR BATTLE

York Museums Trust

It all started with the lockdown in March 2020, when the York Museums Trust decided to challenge other museums and museum visitors to share objects under a given theme in a digital campaign on Twitter titled #CuratorBattle. It turned out to be the most successful digital activity with a lot of impact on audiences as well as museums. During the first lockdown, it was the only way for the museums to engage with audiences, fuel conversations and learn about the objects in the care of museums while they had to remain closed. The result was a huge online thread of hundreds of museums from around the world contributing to this online action and experience. The impact Curator Battle has had is incredible, from [international press coverage](#) and enhancing online engagement to, most noteworthy, improving wellbeing of their audiences during the challenging time of lockdown.



MOMENTOUS

Sharing bushfire and pandemic stories – The National Museum of Australia

Australia did not only face the pandemic in 2020 but also disastrous bushfires. The National Museum of Australia decided to start a crowd-sourced endeavour to record these dramatic events, collect personal stories of Australians of the present and archive the experienced changes for future generations.

The museum has been inviting all people living in Australia to share their personal stories of the pandemic and bushfires times and designated a special website called *Momentous*. Stories can be submitted as images, texts, video or audio and are then published anonymously. The project started with two Facebook groups which should enable the museum to stay in touch with its audiences and offer a platform for people to share and talk to each other.

In order to engage participation, the museum invited several famous Australians to lead the way and share their own stories. As some stories might provoke distressing feelings for some users, the museum also established and shared contacts for support, as a thoughtful and caring gesture.

The museum has also been collecting objects related to the pandemic and the bushfires which will be further displayed alongside some stories shared on the website and contribute to future exhibitions.

Although many museums have started to collect and record the turbulent year 2020, the online collection of the National Museum of Australia is outstanding not only due to the scale, highly appealing design and user-friendliness of the website, but rather to their sensitivity in terms of reaching out to the public as well as offering support.



**3 informative
research reports
on digital revenue**

08

CULTURE + COMMUNITY IN A TIME OF CRISIS

Culture Track

LaPlaca Cohen and Slover Linett Audience Research were quick in launching a survey in 2020 on the impact the health crisis has had on the American population. From April to May they asked how arts and culture organisations could address the hopes, fears, and needs of Americans during and following the COVID-19 pandemic. Although the focus of the survey lies not exclusively on museums and more on audience needs, inclusion, social and racial segregation in the cultural sphere, it still offers valuable insights into how the US population ranks cultural online offers, the reasons why they choose to participate in online activities and the consequent long-term changes.

According to the report, 53% of the respondents participated in one or more digital cultural activities, among which online activities for kids, online classes and workshops and live-stream performances were seen as the most valuable ones. However, back in spring 2020, only 13% reported to pay for such a digital cultural content.

The survey has revealed that many respondents who were using online cultural offerings had actually not physically visited the providing cultural organisation or alike in the past year.

The survey also highlighted that during the lockdown the emotional cause was the leading motivation to seek for digital cultural offerings. Users wanted to keep engaged with creativity, have fun, learn and experience something new and digital activities were the best available offer for that.

Even though, only a small percentage paid for digital programming in the second quarter of 2020, the vast majority acknowledged how important and valuable digital initiatives were and appreciated the great accessibility, flexibility and international outreach of digital programmes.

In terms of audience engagement, digital offers were able to attract audiences to cultural institutions that they had never visited in-person before. All these findings highlight the huge potential for digital offerings not only to survive, but also to enable strong emotional bonds between museums and diverse audiences. It also proves particular willingness from the side of the users and visitors to pay for such offers and thus to financially support cultural institutions as well.

CULTURAL RESTART RESEARCH

Insight Alliance

Cultural Restart is a major ongoing research carried out by the Insight Alliance – a consortium of three prominent UK consultancies formed by Indigo, Baker Richards and One Further. The goal of the research project is to help the cultural sector gather essential audience insights needed to plan for a successful restart and recovery after the lifting of lockdown in Great Britain. Carried out in several stages, called waves, the research has managed to collect more than 42,000 responses over the course of the last year. Every cultural organisation is invited to join the project and apply the *Culture Restart Toolkit* consisting of the *Audience & Visitor Tracker*, *Pre- & Post-Visit Experience Survey* and the *Digital Experience Survey* which is free to use on a regular basis or just once. All collected data is merged into the [interactive dashboard](#) and can be then compared against the national dataset.

In terms of digital engagement and revenue generation, the [latest results of March 2021](#) show that 59% of respondents interested in culture have engaged with offers online since physical venues closed in March 2020. Also of note is that most of the cultural institutions had started engaging with their audiences online only since the lockdown was imposed. 89% of respondents have engaged twice or more versus only 11%, who have engaged online only once. After reopening, over 60% of respondents still remain

very interested in engaging with culture online, or at least neutral. Overall, people aged under 45 show slightly more interest in engaging with culture online in the future as compared to older age groups.

As for monetising digital offers, 60% of respondents expressed interest in buying tickets for online events and 16% would more likely buy a monthly subscription to online events. Once physical visits to venues are possible again, only 9% confirmed that they most probably would not engage with culture online anymore. 59% said they would be less likely to engage with culture online, but would consider when there is no chance to attend in person. 26% would engage with and pay for events, exhibitions and/or activities online and only 7% said they would engage only if the content is free.

The research shows that digital offers have a potential for generating revenue even when holding physical events is possible again. So, considering and creating digital programming is future-proof. Additionally, a detailed [report only focusing on the willingness to pay for digital content](#) was issued in September 2020 by Baker Richards.

EXPERT COMMENT

AUDIENCE ENGAGEMENT



What were the biggest challenges in 2020 for museums regarding audience engagement?

"I saw many museums realise the importance of understanding who their digital audiences are and how well they are serving them via online platforms. Unfortunately, this realisation came too late for too many institutions who found themselves trying to build their understanding of audience behaviour during a period of incredible flux. This led to precious time and resources being spent producing online content and experiences that failed to reach and engage audiences."

How can museums harness the power of digital to create new revenue streams?

"Rather than looking at what they offer and thinking about how they translate it to the nearest online equivalent, I think museums might be better off considering the wide range of successful online revenue models and seeing how they could take advantage of something similar. There are plenty of examples of niche communities, online learning, and subscription products that have achieved impressive scale without the reputational advantages a museum might bring. I also think there's much greater scope for collaboration between smaller institutions who may need to share skills and resources in order to generate positive returns."

— Chris Unitt

Founder of One Further

THE IMPACT OF VIRTUAL PROGRAMMES ON REVENUE GENERATION FOR CULTURAL ORGANISATIONS

Cuseum

How to generate revenue from digital offers? This has been one of the most urgent and discussed topics in the museum realm since the breakout of COVID-19. However, insightful research was scarce. In January 2021, [Cuseum](#) conducted a survey on digital revenue streams in the cultural sector and has recently published a [report](#) presenting the data collected from over 500 museum professionals on how their organisations are generating and diversifying their revenue channels through the use of virtual programmes.

This report intends to serve as a starting point and inspiration for museums to ignite the development and monetisation of digital initiatives, and help in the discussion about which format to invest in by comparing the pecuniary outcome and required staff time for production. Cuseum closely examines seven different types of digital formats, such as virtual tours, summer camps, K-12 programmes, art classes, other types of classes & events, galas and animal cameos (only for zoos), various pricing models and the impact of such initiatives on revenue generation in this report by calculating the highest and average ROI (return on investment) by

programme type. According to the survey, 92% of all cultural institutions asked offer some kind of virtual programme (type heavily depending on the type of museum / cultural organisation) and 73% of them charge some sort of fee (fixed price, donation, pay-as-you-wish, included in membership). When asked about the future role of digital programming, 49% said it was an urgent or vital priority in order to create revenue generation in 2021.

Although digital offers still do not account for the majority of income in museums, they have played an important role in making up the financial losses provoked by the elimination of traditional revenue options during lockdown and are a new player in diversifying revenue streams in order to ensure financial stability, a topic that was considered as being important even before the pandemic. Even with museums reopening in 2021, we can assure that digital programming has come to stay and that the future of engagement will be hybrid, having both physical and digital offers prepared by museums.



**Newly opened
museums**

09

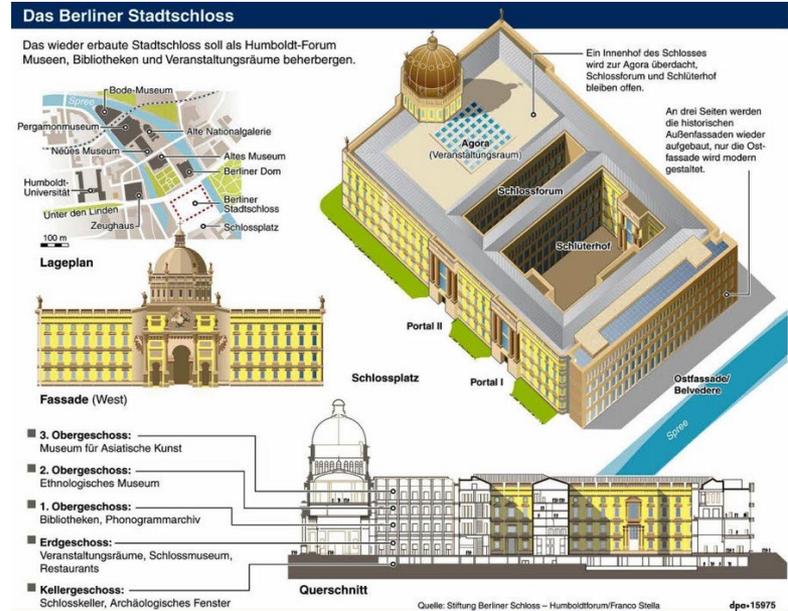
HUMBOLDT FORUM

BERLIN, GERMANY

Located in the reconstructed Berlin Palace in the heart of the city, the Humboldt Forum started to reopen in several phases on 17 December 2020. Considered as the "German equivalent" of the British Museum, the Forum features the history and architecture of the site, the Humboldt brothers, colonialism and coloniality as well as current social and political issues.

From summer 2021, the building will be home to the non-European collections of the Berlin State Museums, more precisely the Ethnological Museum of Berlin and the Museum of Asian Art. Events, learning and outreach programmes, research and the first artistic commissions already commenced in March 2021.

The Humboldt Forum will serve as an open, social, reflexive and discursive space for diverse audiences on the ground floor. On the upper floors, visitors can expect an engagement with the past and present cultures of Africa, America, Asia and Oceania. Additionally to the history of the collections, religious questions and contemporary art, the focus lies on dialogues between cultures and a critical examination of the legacy of colonialism and challenges connected to ethnological collections today. For all, who cannot wait to visit this new landmark in Berlin, a 360° virtual tour through the site is already available online.



ALBERTINA MODERN

VIENNA, AUSTRIA

In May 2020, a new landmark for modern and contemporary art was opened in Vienna – *Albertina Modern*. The new venue emphasizes Austrian and international art created after the Second World War, including works of Viennese Fantastic Realism & Actionism, Kinetic and Concrete Art as well as representatives of Pop Art, Critical Realism and the Feminist Avant-Garde.

This second satellite venue of the Albertina Museum holds a collection of more than 60,000 works by 5,000 artists such as Arnulf Rainer, Maria Lassnig, Franz West, Erwin Wurm, VALIE EXPORT and many more displayed within 2,000 square metres. The inaugural exhibition, *The Beginning: Art in Austria, 1945 to 1980*, explored the role Austria played in those formative years. The following exhibition in the programme will show international art from the same period, and from then on artists from Austria and abroad will always be displayed together.

The new home of Albertina Modern aka The Künstlerhaus was not a random choice. Built in 1868 by emperor Franz Josef and given to the artists of Austria as an exhibition space, it was later used by the Nazis as a stop to show the infamous travelling exhibition *Degenerate Art* in 1939. Where the work of artists was once defamed, now it is cherished as it deserves.

“For the first time we’re not only giving a comprehensive overview of modern and contemporary Austrian art, we’re also showing it in an international and art-historical context.”

– Klaus Albrecht Schröder, Director



THE HAPPINESS MUSEUM

COPENHAGEN, DENMARK

Amidst the pandemic, Denmark opened a Happiness Museum or so-called Lykkemuseet in Danish. The museum was opened in July 2020 in the centre of Copenhagen and is financed and managed by The Happiness Research Institute which started to develop the project back in 2019. Why Denmark? The country came in second two years in a row on the annual World Happiness Report conducted by the United Nations Sustainable Development Solutions Network. This makes it the perfect spot for a happiness museum.

In the museum, visitors can learn about the history, science, politics and architecture of happiness as well as the anatomy of smiles with the help of objects, special exercises and thought experiments. The displayed exhibits have been donated by people all around the world.



WESTERN AUSTRALIA MUSEUM BOOLA BARDIP

PERTH, AUSTRALIA

After four years of construction works, the new Museum Boola Bardip in Perth could finally open in November 2020. Deriving from the Aboriginal language Whadjuk Noongar, the name means „Many Stories“ and to full extent reflects the mission of the museum: the celebration of the history and contemporary culture of Western Australia recognising the significant role of Aboriginal people in Western Australia's shared cultural heritage. “It honours the cultural heritage of Australia’s First Peoples, and it reflects the shared cultural heritage of the 2.65 million people who call WA home”, says David Templeman, Culture and Arts Minister of Western Australia. Citizens from all across Western Australia were also involved in the development of Boola Bardip's exhibition and programmes in a collaborative effort by contributing personal objects, stories and giving advice on indigenous topics and matters.

The new building, designed by international architectural consortium Hassell + OMA, incorporates five distinct heritage structures, with the oldest dating back to 1855.

Tripled in size in comparison to the original museum, the new building offers eight permanent galleries, a 1,000 square metres temporary exhibition gallery, a shop and a café.

"This is the voice of all Western Australians. They've shared stories, they've shared photos and objects and I think that's what makes it so authentic."

- Alec Coles, WA Museum chief executive officer



FURTHER MUSEUM OPENINGS

We listed museums that were newly opened or underwent relocation, refurbishment or extension in the course of the year 2020.

ASIA

HE Art Museum, Foshan, China
Seiji Togo Memorial Sompo Japan Nipponkoa Museum of Art, Tokyo, Japan
Kyoto City KYOCERA Museum of Art, Kyoto, Japan
Museum of Art & Photography, Bengaluru, India

AMERICAS

The Momentary, Bentonville, USA
Dia: Chelsea, New York, USA
Oklahoma Contemporary, USA
Museum of Fine Arts, Houston, USA
Harriet Tubman Museum, Cape May, USA
U.S Olympic & Paralympic Museum, Colorado Springs, USA
Planet Word Museum, Washington D.C., USA
National Museum of African American Music, Nashville, USA

EUROPE

Gemäldegalerie Alte Meister, Semperbau, Dresden State Art Collections
The Box, Plymouth, UK
Sigmund Freud Museum, Vienna, Austria
Migration Museum, London, UK

AUSTRALIA

Western Australia Museum Boola Bardip, Perth
Museum of Underwater Art, Queensland

OUTLOOK

“There is no way back to museums without digital offers”

*- Thomas Collins
President of the Barnes
Foundation*

Despite all the negative effects and tragic losses of the COVID-19 pandemic, it was a true accelerator for digital transformation and the implementation of new technologies and innovations in the museum realm. Many museums have seized the Corona crisis to embark on their digital journey and there is one thing we are sure about – digital has come to stay and will continue to play an important role in the museum realm.

The investments and hours of work dedicated to the implementation of new technologies and digital content will pay off, if done in a sustainable way. Although many museums have reopened again, the future of museums will be hybrid and museum visitors will expect onsite as well as online offers. New digital revenue streams in form of unique digital experiences will help museums recover from the high financial losses and the implementation of new technological tools will further improve and smoothen the daily work tasks in the museums as well as the visitor journey and experiences.



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