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#MakeWithEuropeana MAKERS MARKET PILOT REPORT

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1. Executive summary

The maker market has rapidly gained momentum in the last few years. As it is considered a creative industries submarket, in 2017 we recognized it as a business development opportunity for Europeana and committed to investigate makers as a potential secondary creative audience in a small pilot.

The pilot consisted of two phases. Phase I was theoretical and involved in-depth desk research into the maker movement from a wide variety of online sources. The research findings were analysed and helped us shape the next phase. Phase II covered a nine-month practical experiment to gather first-hand experiences on the maker market, evaluate the attractiveness of our reuse offer to makers as well as the potential impact we could have.

The experiment included the following three main actions: (a) industry consultation; (b) a promotional campaign and (c) an investigation of relevant content distribution formats.

We interviewed 12 professionals from 5 countries (Europe and North America). They ranged from individual makers to representatives of larger organisations, from maker professional bodies to libraries with makerspaces. All of them have had significant experience with maker communities, very often in international contexts. Their knowledge about Europeana and our potential offer to makers varied from none to very good; however, they all responded positively to our invitation, provided valuable insights about the maker market trends, audience profile and possible ways of engagement, and made recommendations on our future approach.

The promotional campaign included attendance at selected makers events and three online mini-campaigns on the Europeana Labs social media. We participated and presented at three maker events: two featured Maker Faire events (one local in The Netherlands, one international in Germany) and one workshop in Mallorca organized by Europeana in cooperation with two local FabLabs. The mini online campaigns highlighted our content on specific topics (Art Nouveau, Maps and End-of-year festivities) and ran between April and December 2017 (each for two months). We encouraged engagement by using popular maker hashtags, involving influencers and asking for sharing of maker projects reusing campaign's specific content. We also collected user feedback through onsite conversations at events and two surveys – one targeting the participants of our own workshop in Mallorca and one on Twitter.

Finally, we investigated the suitability of the various formats to bring content to makers. In particular, we looked at Pinterest boards and Europeana thematic collections.

Our findings show that the maker market is too broad and even its digital segment is too vast and diverse in specialization to allow effective outreach at scale. The complexity and diversity of the maker communities makes the segmentation and the customisation of our content offer very difficult. Makers seem to be interested in content on topics which imply easy application, for example, maps, furniture or patterns, and have an expected preference for images. 3D content is increasingly popular and has high potential across maker specialties and particularly for education.

A successful approach to the maker market would involve both digital and physical elements. Maker communities have strong local profiles, with physical meetings (both peer-to-peer and open public events) being critical for outreach and engagement. At the same time, makers are finding materials online and are extensively using social media for communication and marketing (Instagram, Pinterest, YouTube, Facebook, Twitter, maker blogs). Europeana has no 'local' representation and so would be heavily dependent on local partners (from FabLabs to cultural institutions with makerspaces) for successful outreach. However, the diversity of specialisation of the maker communities even on a local level, the time and resources required to identify interested and capable local partners with access to these communities, as well as to build and maintain relations would make a B2B (business-to-business) approach very difficult and not economically justified.

The maker market is perceived as cynical and tricky. Engagement via social media would require persistence and thus additional internal resources for regular and topical campaigns, even if these would only complement the efforts of our local partners. Even after many months of communications, we may only be beginning to make an impact on this market. Competitions with small financial awards can be an effective outreach tactic as makers are often short of funds and funding can be a great incentive.

With all of the above in consideration, we would have a small, wide-spread impact on the maker market and we would struggle to collect evidence of reuse. The time and effort invested into entering this market might not be commensurate with the impact we would achieve.

Therefore, **we recommend not pursuing an entry on the maker market in a short term.**

That said, it is worth exploring a few maker-related initiatives with potential positive impact on other target markets of Europeana:

- **Promote the collaboration between cultural institutions and makers** - considering the local character of the maker movement, its strong potential for community building, the proliferation of the library makerspaces and some great examples of collaboration between museums and makers, we should advocate for stronger ties between local cultural institutions and makers as a way to encourage engagement and reuse of their collections for creative and educational projects and thus ensure sustainability.

- **Increase the 3D collections and their quality on Europeana** - this action would have positive effects on various levels. It will enhance the overall quality and attractiveness of the Europeana Collections, increase the reuse in 3D print and virtual reality applications and, in this way, will positively impact our work on all our reuse markets (creative industries, education and research) as these applications are expected to be of higher demand across these sectors.

- **Explore the connection to education** – educators and students are a growing and high-potential maker audience. Maker activities and maker toolkits are already offered in and outside the classroom and this will remain a trend. Europeana might look into this opportunity by developing ad-hoc partnerships with industry producers (technology and play materials providers like LEGO) and investigate how we could link to makers in our planned educational activities.

Finally, we recommend monitoring the maker market and make a re-evaluation in two years. The future market developments as well as the results from the initiatives above might provide new insights and change our decision with regard to this market.

2. Brief and rationale

The maker market has showed significant growth in the past few years and in late 2016 we recognised that our content could be attractive to this community. At that time, we had little knowledge of the awareness of Europeana within the market, or of the need for digital cultural content by its communities. We had few to no case studies of makers using Europeana content, although heritage reuse by makers is not uncommon.

Therefore, in 2017 we aimed to investigate the maker market and evaluate its potential for Europeana reuse. We started working on a small pilot with the following goals:

1) Get an understanding of the maker market, including makers' profiles, their needs, motivations, and ways of engagement.
2) Test the attractiveness of our content to makers
3) Assess the feasibility of a full-time market entry and thus inform our decision on whether to proceed (or not) on this market in future.

3. Methodology

We first conducted desk research into the maker movement from a wide variety of online sources. The research findings were analysed and used to shape the next pilot stage.

We then planned to conduct a small scale, practical experiment in order to evaluate the attractiveness of our reuse offer to makers and the potential impact we could have on this market. The pilot would run between April and December 2017 and include the following three main actions:

1. An industry consultation;
2. A promotional campaign, involving attendance at selected makers events and online mini-campaigns; and
3. An investigation of relevant content distribution formats.

The results would be consolidated into a report to document and evaluate what we learnt and achieved through the pilot period, as well as propose next steps.

3.1. Phase I: desk research

The findings of our in-depth research can be seen in Appendix 6.1.

Based on this research, we identified high level amateur and professional makers as our target market for the pilot. High level amateur and professional makers include three categories - educator, pro-maker and entrepreneur - who can demonstrate originality and excellence in using digital and technological means (e.g. computer-aided design, 3D printing or laser cutters) in concept, design and process to produce digital or physical products.

Our research indicated that the maker market is digital and connected and that physical meetings play an important role for the market outreach and engagement. In terms of content, the research provided sufficient evidence to assume that our content can be inspirational for the maker communities and that easy access to our collections can be an extra incentive for makers.

As a next step, we aimed to gather field information to test our assumptions and address questions, such as:

- Whether we are aiming at the right market segments.
- Whether our offer is attractive enough, and what else we need to provide.

- How and how often our content is used by makers.
- How we will target makers in their practices.
- What networks (if any) could be helpful in our outreach activities.

3.2. Phase II: practical experiment

Building on top of our market research, we launched a nine month pilot with the following activity plan and timeline:

Activity/month (2017)	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1. Industry Consultation									
2. Promotional campaign									
2.1. Events: Makers Fair Twente (May), Platoniq makers event (June), Maker Faire Hannover (August)									
2.2. Mini-campaigns: Art Nouveau (April & May), Maps for makers (July & August), Make it Festive (November & December)									
3. Explore relevant content distribution formats									

3.2.1. Industry consultation

We consulted with selected industry partners to test our definition and focus on this market and get a better understanding of the maker market. In addition, we aimed to informally raise awareness of our offer and to investigate potential partnership opportunities.

Consultee selection

Consultees were either determined in advance and approached by us, recommended to us or consulted with after getting in touch with us due to the visibility of the maker campaign.

Between May and December 2017, we consulted with **12** people across **5** countries (see Appendix 6.2 for the list of consultees):

- Germany 1
- Republic of Ireland 1
- United Kingdom 5
- Netherlands 4
- United States 1

Considering the small-scale nature of the pilot and our limited resources, the geographic diversity (in terms of where a person/organisation was based) was not a priority for the consultee selection. Reaching across Europe was not possible or necessarily as effective as reaching out to those who had experience of working with makers, especially in an international context.

We ensured a good range of perspectives by selecting consultees based on:

- Scale - individuals (4) and organisations (8)
- Awareness of Europeana and our content:
  - Did not know about Europeana (4)
  - Knew a little about Europeana (4)
  - Knew a lot about Europeana and who may be part of our formal or informal network (4)
- Expertise with the maker movement
  - Cultural institutions with maker projects (4)
  - Fab labs/other makerspaces (3)
  - Either a maker or a facilitator in a maker network (4)
  - A representative body in the maker movement (1)

Many of those consulted had worked on international maker network projects.

Interview method

Interviews followed a semi-structured approach based around the questions in Appendix 6.3. These questions were created to solicit the most relevant information and to ensure key topics were covered. However, due to the diversity of the consultee list and the informal interview style, the questions were used as a guide only.

Most interviews lasted on average between 50 - 70 minutes and all were arranged in advance by email and completed via Skype meetings. Meeting notes were first captured in a rough document and then structured in a similar format (see Appendix 6.4 for all of the consultation write ups).

In addition, we collected useful feedback from representatives of the global maker 3D manufacturing network 3D Hubs at their stands in the startup area of at The Next Web conference in May 2017 in Amsterdam. This informal conversation is summarised in a similar format to the rest of the interviews and added to the consultation write ups, and, respectively, findings.

3.2.2. Promotional campaign

We got additional insights about the makers and, in particular, tested our assumption that our content could be inspirational and attractive to a makers audience by attending selected maker events and organising three online mini-campaigns between April and December 2017.

3.2.2.1. Events

We planned to attend and, where possible, present at a maximum of two significant maker events, e.g. 'featured' Maker Faires. We selected events with what we understood to be a high concentration of high level amateur and digital makers (based on consultation with the event organisers). We were also interested to explore events where heritage institutions had been already engaging with makers. For budget reasons, we chose one local and one international event:

- Maker Festival Twente - Enschede, the Netherlands, May 2017 (a local partnership between a creative industries organisation and the Twentsewelle museum)
- Maker Faire Hannover, Germany - August 2017 (a 'featured' event organised by the German Maker Faire organisation)

We were able to schedule presentations at both events, thus ensuring maximum opportunities to trial our offer to makers.

In addition, we organised a co-creation workshop for makers in collaboration with our DSI2 partner Platoniq on 22 and 23 June 2017 at the Makerspace of the Artik Center, in Palma de Mallorca. Both Platoniq and Artik Center belong to the FabLab network.

Maker Festival Twente

Maker Festival Twente was a two day local event held in the East of the Netherlands on 20-21 May 2017. It was the fourth maker festival in Twente and a co-production of Tetem, a creative visual arts and social organisation, and the Museum TwentseWelle.

This appeared to be a good event where we might be able to meet a crowd of makers interested in (or at least comfortable with) heritage due to the museum involvement.

The event used most of the museum's space and adjoining buildings of the art school and Tetem. There were also a significant amount of exhibits outside, which included kinetic sculptures, robots, or outdoor exhibition areas (e.g. one area managed by Shell).

A presentation by Europeana was scheduled for the second day as part of the Expert programme, where we would join other specialists (e.g. artists, technologists) who would present their craft. We were advertised on the website and Expert Programme Brochure. We also did our own marketing via Europeana Labs channels.

The presentation had no attendees and this could be due to a number of factors:

- Although the connection with heritage and makers was strong, this turned out to be rather an educational/community event than a significant creative industries event.
- The event stalls were managed by makers but families made a big share of the attendees.
- The weather was good, meaning that few people came to the Expert Programme presentations (other presentations were also poorly attended).
- The presentation rooms were difficult to find and far from the main throughways of attendees.

Maker Faire Hannover

Maker Faire Hannover was a large event on 26-27 August 2017 (plus Friday 25 August was open for school visits). It was the fifth iteration of this 'featured' Maker Faire e.g. a larger scale regional event for makers and it was coordinated by Maker Faire Germany. The 2017 edition attracted 17,800 attendees as well as 800 makers across 170 exhibitions. It was hosted inside two large halls of the Hannover Congress Centrum (HCC) and also featured an extensive outdoor exhibition area. It was busy and attracted a diverse audience, including many families with children and other groups of people (including CosPlay). The event was open to a huge diversity of maker practice - from robotics to T-shirt printing, to drone contests and mobility and transport innovations.

Europeana's presentation was part of the presentations and workshops schedule. These sessions were held in a small cluster of meeting rooms in the HCC building but separate from the main throughways and the large halls. Europeana's presentation was promoted in the event online program (live for over three weeks), on Europeana Labs channels and onsite through digital sign boards showing all workshops and presentations at entrances and other prominent locations.

Other events were well attended, but Europeana had a small audience of 5 attendees. This could be due to a lack of awareness about Europeana, time slot "competition" with other sessions, a large share of family attendees and, a possibly lower interest in digital making (see a comment on Twitter that 'non-digital making' was (regrettably) under-represented).

Despite the low attendance, Europeana's presentation was well received and brought up some interesting points related to copyright and reuse. One audience member reflected that Europeana's offer fits with the open sharing culture of the makers movement, whereby makers release designs, code, etc., as open source so others can actively use it. Another member raised the point about ownership and rights after digitization (e.g. once a 3D model is made). It also provoked a short conversation about how museums react to their content being taken and used commercially, setting out a need for Europeana to clearly demonstrate the value that is drawn from having digital cultural heritage content openly available (including for commercial reuse).

The other events during the Maker Faire Hannover proved thought provoking. One panel debate on Making on Youtube was a great reminder that there are far more makers online that could ever be gathered in one physical space, and that digital platforms like Youtube are the way to reach them in a time and resource effective way. On the other hand, one of the panel members openly thanked events like Maker Faire, noting that Europe still lacked the 'physical' side of the community that is more developed in regions like the US.

Maker workshop Mallorca

In partnership with Platoniq and the Artik Center FabLab Palma, Europeana invited a small group of makers to a co-creation workshop on 22 and 23 June at the Makerspace of the Artik Center in Palma de Mallorca. The event was extensively promoted on Europeana and Platoniq's online channels as well as at the Maker Faire on 17 and 18 June in Barcelona (attended by Platoniq).

The 12 participants of the Mallorca workshop explored Europeana Collections and prototyped new ideas for the creative reuse of digital cultural heritage using Platoniq's innovative "Co-creation made agile" methodology and the 3D printing facilities of the Artik Center.

The makers varied in specialisation (designers, artists, teachers) but they all shared a passion for experimentation and strong interest in applying new ways of working, such as co-design and novel technologies (3D printing and laser cutting, for instance) into their practice. Most of them weren't familiar with Europeana and got truly inspired by the richness of our collections and their great potential as a resource for diverse makers projects. The workshop ended with a showcase of culinary, fashion and two educational projects which all shared a strong 3D component (virtual reality or 3D print).

After the workshop we conducted a small survey to get more insights on makers' interests and behaviors (see the questions in Appendix 6.4)

3.2.2.2. Online mini-campaigns

We planned and executed three small thematic campaigns on:

1. Art Nouveau (coinciding with the Europeana Art Nouveau season) April - May 2017
2. Maps - July - August 2017
3. End-of-year festivities - November - December 2017

We made separate communication plans for each thematic campaign using our existing online channels Europeana Labs Twitter, blog and newsletter. The choice of these channels was justified by 1) the clearly digital profile of the maker, and 2) low resource costs for implementation (both time and financial).

For each campaign, we planned regular blogs that would highlight content relevant to the specific theme. These blogs would then be actively promoted on Twitter and shared in the Europeana Labs newsletter (a monthly edition with ca. 3000 subscribers).

In total, we launched the following blogs per campaign:

Campaign	**Blog total**
Art Nouveau	5
Maps	5
End-of-the-year festivities	4

Our tweets were visually attractive and showcased our own related content. The tweets engaged with the existing makers movement on Twitter using hashtags like #makersmovement, #makermovement, #maker and #makersgonnamake. We also launched the imperative hashtag #MakewithEuropeana to trial the reception to our content in this market. Finally, we tagged influential maker profiles to our posts, for example, European Maker Week, Maker Faire Rome , Makers Life and Emergents Makers.
See tweet examples for each promotional campaign in Appendix 6.5.

As part of our promotional campaign and engagement on Twitter, we also held a Twitter survey between 2 and 9 August 2017 (see Appendix 6.7) to find out more about makers' content needs. We got 11 responses from makers with specialisation in crafts (4), textile (3), laser cutting (1) and other (3).

3.2.3. Explore relevant content distribution formats

This part of the pilot aimed to investigate the suitability of various formats to bring content to makers. Based on the research findings, we looked specifically at Pinterest boards and Europeana thematic collections.

For a digitally connected and very visual audience, Pinterest is a good platform to explore and one where Europeana already has a following and the necessary experience and skills to maintain. In our pilot mini campaigns, we featured existing Pinterest boards related to the campaign topic in the Europeana Labs communication channels. Due to planning priorities, we could not invest resources in curating new Pinterest boards on topics where we have free to reuse content that could attract makers audiences (for example, crafts).

Europeana collections are diverse in topics and media formats and feature content through time, regions, disciplines and techniques. Offering such a rich content from a historical perspective might be a good hook to engage modern makers. Therefore, we planned to investigate the possibility of having a thematic collection dedicated to makers based on the pilot findings on the focus maker groups and their interests.

4. Findings

4.1. Industry consultation

The selected consultees reacted positively to our interview invitation and provided valuable insights about the maker market. The majority of consultees were also happy to continue a dialogue with Europeana after the consultation period and discuss potential partnership options, and many were interested to see the outcomes of the research and pilot.

We organised the main feedback points in a few sections which relate to key business elements and would later support our decision regarding the potential entry on the maker market.

Audience

- The term maker was considered too broad by several of the consultees. One of them defined makers as people with the mindset and desire to change, without making any further segmentation based on age, professional association and specialization. Another suggested that, as communities increasingly come together to find the solutions to problems, everyone will become a maker and yet not identify themselves as such.
- Many of our consultees considered educational audiences (teachers and secondary school pupils using the makerspaces) a valuable audience within the maker movement.
- The maker audience is digital, but also significantly local. This duality is seen both in terms of community (networks, events, etc.) but also in terms of the content, inspiration and motivation that drives them.
- Geography changes the nature of the makers movement to some extent, but the movement is bound by more commonalities than differences. Infrastructural conditions (e.g. existing networks, funding, places to meet) and socio-economic differences (e.g. willingness to pay for goods, necessity to "make" in relation to lack of employment opportunities) shape the makers movement on a local level. Regional/local differences also exist to the extent that there is a desire from many makers to improve their local community using whatever resources are available.

Content

- Makers find inspiration from anywhere. They use expected channels to find content, like Google images. Some are wary of this content because they don't know how it may be used (e.g. for commercial use) and some don't know this but use it anyway.
- 3D content is an important stimulus for makers across specialties - for artistic expressions, crafts, for educational and technological projects.
- Europeana is perceived as a resource that is too big and too broad. At the same time, several consultees thought that cultural content could be interesting to makers and one consultee commented that cultural heritage content is a 'goldmine' for makers that is so far unexploited.
- Makers are inspired by their local context, but Europeana's content seems to be far removed from everyday life and the object's purpose. It was recommended to create the 'narrative' that bridges the connection between the maker and the content and present the object in a context.
- In two contexts, Europeana's historical offer was mentioned as important for makers. Firstly, professional makers are more likely than amateur makers to take a historical perspective of their craft over time e.g. search for and use vintage illustrations. Secondly, one consultee discussed the showcasing of the history of making as a potential role for Europeana (e.g. showing developments across maker practice over time, keeping a record of manufacturing techniques, etc.)

Engagement

- Makers are a diverse, difficult and skeptical audience.
- Europeana needs to go where the makers are – both to digital and physical spaces and channels as only digital communication will not effectively engage the maker movement.
- Personal and local engagement is key. However, engagement on a local level is not easy and persistence and good local partners are required.
- Makers aren’t aware of the online digital cultural heritage offer.
- Twitter, Instagram, Facebook are all effective communication channels.
- More libraries are opening makerspaces or doing projects with makers. Libraries can offer a way to reach a wider maker audience - not only professionals but also young people in education. The connection between libraries and makerspaces for educational purpose is promising.
- In comparison, museums are still in the process of extending their practice to work with makers and digital content.
- Professional audiences are less likely to identify themselves with (and thus use) platforms like Etsy. Due to reputational considerations, they are more like to have their own webshops.
- Big maker platforms like Etsy don’t readily advertise (even if it is non-profit) and partnerships have been limited a lot, due to labour intensiveness vs ROI.
- Case studies are necessary as a way to show makers what they can do with digital cultural content and why they should be interested in it.

Most important trends for Europeana

- 3D scanning is important for education, engagement, documentation, conservation, so the availability and reuse of 3D content may increase as a result.
- 3D printing is widespread and likely to continue. 3D printing, however, must be brought more firmly into the school curriculum.
- Sketchfab are investigating how 2D images can be arranged/made useful in 3D.
- Some (in this case Makerversity) are currently looking into how they can support makers without spaces.
- Virtual reality is the strongest emerging media/technology and its uses are only beginning to be explored.

Recommendations

- Content related:
    - Promote curated and locally relevant content for makers.
    - Be more rigorous in accepting content labelled ‘3D’, making it instead truly usable. Important: PDFs are not usable 3D formats.
    - Europeana collections must offer content in vectorised file format so that these can be easily used by makers for 3D printing projects.
- Engagement related:

- Use existing library networks to promote Europeana content to makers.
- Make a toolkit to #MakeWithEuropeana in a public library context.
- Collect exciting and interesting reuse cases to answer the question of ‘how can I use this?’.
- Europeana Challenges can be a strong incentive for professional makers. They should issue a clear brief, presenting a problem to solve or some other ‘big question’. The competitions should be open for proposals at different stages of creating (concepts/designs/products e.g. early stage or advanced) and applications that incorporate Europeana content in existing products rather than making brand new products. Europeana Challenges could be run in collaboration with other partners, like Sketchfab, who were willing to discuss further. The prize pot does not have to be big (Sketchfab challenges give awards of 400 GBP, other suggestions refer to max 2,000 EUR).

4.2. Promotional campaign

4.2.1. Events

The participation in the three maker events – Maker Festival Twente, Maker Faire Hannover and Europeana maker workshop in Mallorca – provided the following insights:

- MakerFaire events seem to have more B2C (business-to-customer) than B2B (business-to-business) character. They are very focused on presentation and retail rather than networking or exploring new business opportunities. Also, they attract predominantly general public and families in particular as visitors. In this line of thought, maker fairs can play an important role for boosting the local economy and community but don’t seem to be an effective way for Europeana to reach professional makers at this stage.
- The strong connection to local partners is essential for reaching the right maker audiences and making the event a success (in terms of attendance and outcomes). The most successful event was the co-creation workshop in Mallorca - the event which was planned and organised in cooperation with our trusted partner Platoniq and their strong local connection Artik FabLab.
- Event’s exclusive focus on Europeana and its resources for makers naturally ensures better results but it requires a corresponding financial investment on our side (Mallorca workshop example). Scaling such events across Europe would not be a financially viable and logistically feasible decision for Europeana.
- Awareness of Europeana among makers is very low to none. Significant resources would be needed to make a change in perception at scale.

- Presenting our offer to physical makers (e.g. crafts people) may present good outcomes and so should not disregard this segment to focus on digital makers.
- We need to thoroughly segment the digital maker category and target our offer. 3D print makers may find Europeana's offer attractive, but robotics developers may not.
- There are strong indications for a high-potential link between makers and education which reinforces the consultees' observations and recommendations on this topic.

Event survey

After the workshop in Mallorca in June 2017 we conducted a small survey (see Appendix 6.4). We got response from three workshop participants specialising in textile, education and art, and project development. Only one of them had maker-related activities as their main occupation. Two participants mentioned Facebook and Twitter as channels to reach them. The site https://furlscrochet.com/ and the hashtags #HazAlgoBonitoConTusManos, #rodolfoamigurumi , #DesarrollaTuInventiva were some of the examples listed. Only one participant knew about Europeana before attending the workshop and two had previously worked with cultural content in textile, fashion and graphic projects. The respondents said they usually find content for their work in social media and through their personal network of fellow creatives. As appealing cultural content, makers highlighted images and, in terms of content, attire, dresses, accessories, and the creation history of these items.

The general explanation given to justify why makers do not use more digital cultural heritage content in creative practices/new businesses is that they are not aware of its availability. As for how Europeana could encourage use of digital cultural heritage content in their practice, makers mentioned that we could focus on educational projects and organization of competitions that finance makers products. Under future trends for makers a respondent listed the focus on functional and ethical designs. Finally, the participants demonstrated interest in taking part of another similar workshop by Europeana.

4.2.2. Online mini-campaigns

The top three blogs across the campaigns were, respectively, Maps for makers (554 views), #MakeItFestive: Greeting cards (460 views) and #MakewithEuropeana: Art Nouveau (392 views). It's likely that two of the most viewed blogs (#1 and #3) performed well in that criteria, because they served as official announcement of the first two thematic campaigns and were mentioned throughout the blog series. As for the second most viewed blog (featuring ideas for greeting cards), the good timing (i.e. holiday season) in addition to the good content could explain the high number of views.

On Twitter, engagement is measured by the times people interacted with a tweet. As of January 2018, a end-of-the-year festivities tweet registered the highest engagement mark

(311 interactions), followed by two maps related tweets (228 and 223 interactions). Impressions correspond to the times people saw a tweet on Twitter. Based on this, a maps related tweet received the highest number of impressions (17,843), followed by an end-of-the-year festivities tweet (16,599), and another maps tweet (12,951).

These numbers show that broader themes that cover various disciplines (for example, Art Nouveau with expressions in art, architecture, crafts, etc.) may be perceived as too abstract by makers and can serve mainly as inspiration. In contrast, promoting a specific type of content seems to have direct appeal to makers. Considering the stats above, the promotional campaign dedicated to maps was the most successful. We felt that the maps campaign had better engagement not just because of the popularity of maps in crafts/product design, but also because this type of content is easily applicable in various projects (for example, map print on various surfaces).

Our makers survey, promoted via Twitter and Labs newsletter in August 2017, helps to validate that assumption. The majority of respondents (7 out of 11) pointed to patterns designs as their prefered theme for any upcoming Europeana campaigns. Photographs and maps were the next listed options. Once again, these are content picks with direct and easy application. The survey provided also valuable insights about the preferred content media format of makers: 10 of the 11 respondents selected images as the format that they are using most in maker projects.

Challenges

Although we gained a considerable number of Twitter followers since the start of the makers campaigns (380 new followers, an increase of 65% from April to December 2017), only a small percentage came from the maker communities and most of the followers interacting with the content have been part of our known network on Twitter and involved in the museum sector. In addition, our call for maker products, services and business using Europeana content did not yield any project results.

Our online campaigns were envisaged as low key activities and their outcomes clearly show that a successful engagement with the maker audiences via social media would require a more targeted approach, continuous resource investment and stronger cross-collaboration with relevant maker partners.

4.3. Explore relevant content distribution formats

This third part of the pilot focused on activities which can help us evaluate the suitability of various formats to deliver content to makers. These activities included:

Creation and promotion of Pinterest boards
We realised at an early stage in the campaign that Pinterest boards were already in place that featured content that we believe to be of interest to makers. These related to themes (e.g. Art Nouveau) but also to types of materials (e.g. glass) and outputs (e.g. furniture). We were able to promote these boards throughout our promotional mini campaigns. Pinterest images were featured in our top three maker blogs as well as in the second and third popular maker tweets (in terms of impressions).

These stats may reinforce the consultation findings about the important role of Pinterest for the maker communities. Therefore, channels that effectively feature small curated collections of content, such as Europeana Pinterest boards and now also the new Galleries, might be a viable option for showcasing relevant content to makers.

Investigating the possibility of having a Thematic Collection
Scoping a dedicated maker thematic collection will be quite challenging. Thematic collections are curated content selections on a specific topic. The variety of specialisations and interests of the makers would require the inclusion of an extremely broad selection of content, which can be both technologically difficult and counterproductive in terms of outreach. We would struggle to accurately create a makers query that could pull together the diversity of content a maker needs; e.g. from 3D content to art nouveau chairs to glassware to Neolithic jewelry. As our consultation implied, too much content may also be a barrier for those new to the site. Finally, we need to consider additional Europeana staff time for creating and managing the collection which might not be possible in the current team setting and work planning.

5. Conclusions and recommendations

The pilot aimed to address the amateur and professional makers using “digital and technological means (e.g. computer-aided design, 3D printing or laser cutters) in concept, design and process to produce digital or physical products”. Our findings show that even this definition is too broad and that we may have underestimated the full digital scale of the makers movement. Makers’ specialisations can vary from textiles to ceramics and bio prints and even the digital techy segment of the makers market is so vast (including coding and robotics as well as 3D printing) that we can’t possibly reach it at scale.

In terms of content offer, Europeana Collections can bring value to makers as a source of inspiration and materials. The collections provide a historical perspective that other image banks do not show. Many consultees were clear about the value of our free to reuse content.

The abundance of images is certainly a strong advantage of the Europeana offer. 3D content is of importance for digital makers as it can be used for various artistic expressions, and for educational, technical and business projects. High potential areas of applications include 3D printing, virtual reality, games, video, and design/crafts. However, this type of content is the least represented in the Europeana Collections and often not available in the formats required by makers (e.g. vectorised files). Building up the 3D collections on Europeana to a rather significant size and quality level might be a slow and, for the digitizing cultural institution, a financially demanding process.

Our content is easily accessible but the Europeana search could be improved. We do not know if there are vocabularies/search terms which are more important for makers. We should continue to promote the ‘Can I use it?’ search filter to highlight the availability of openly licensed content and encourage its reuse by makers. Content should be curated because the site is off putting compared to the ease of a Google Search, which is the most frequently discussed avenue for finding content. In addition, makers look for content with sufficient contextual information, although this information could be very different depending on which segment of the maker market one considers.

The thematic collection seems not to be a good way to promote maker-specific content. With Pinterest (and now Europeana Galleries), we can showcase specific and small collections of content that might appeal to small portions of the makers movement. If desired, we can target specific communities of makers with these content distribution formats.

In this regard, we should continue to support improvements to our platform so that makers easily find the content and inspiration they are looking for. Such platform improvements and content enrichment are required across Europeana target markets, therefore, wouldn’t influence substantially the business decision regarding the maker market.

Not surprisingly, makers are not aware of Europeana and our digital offer. All findings suggest that a successful market approach should have both a strong local and digital component. Maker communities have a strong local profile, with physical meetings (both peer-to-peer and external events) being critical for outreach and engagement. At the same time, makers are finding materials online and are using extensively social media for communication and marketing: Instagram, Pinterest, Youtube, Facebook, maker blogs.

Our challenge is that Europeana has no ‘local’ representation and so would be heavily dependent on partners. Big maker platforms like Etsy could be a great place to get in touch with a lot of makers at once but platforms like these don’t readily advertise (even if it is non-profit) and partnerships have been limited a lot due to labor intensiveness vs ROI. Therefore, local partners seem to be the better choice. However, the diversity of specialisation of maker communities even on a local level, the time and resources required to identify interested and capable local partners with access to these communities, as well as to build and maintain the relations would make the B2B approach very difficult and not economically justified.

It was noted that the market is cynical, tricky, and that persistence is key. Engagement via social media would require additional internal resources for regular and topical campaigns, even if these would only complement the efforts of our local partners. Even after many months of communications, we may only be beginning to make an impact with this market which won't be a sustainable approach in the long term.

Those consulted with were positive about the idea of using challenges as a call to engage with Europeana content, as high level amateur and professional makers aim to make a living out of their creative occupation and would consider financial support a major incentive. The competitions could be even more successful in combination with a good social media campaign or in partnership with organisations with a direct maker audience (e.g. Sketchfab). It was recommended that these competitions could invest small amounts amongst various maker groups to help build a portfolio of reuse cases across specialisations. We have successfully organized the Europeana competitions in a similar way, with very good results. However, the decision on an exact target maker audience will be difficult and might put the competition success at risk.

Based on our research and experimental findings and the analysis above, **we recommend not pursue an entry on the maker market in a short term.**

However, our recommendation is not to exclude completely the maker market potential and go ahead with the following initiatives which might benefit other target markets of Europeana:

- **Promote the collaboration between cultural institutions and makers** - considering the local character of the maker movement, its strong potential for community building, the proliferation of the library makerspaces and some great examples of collaboration between museums and makers, we should advocate for stronger ties between local cultural institutions and makers as a way to encourage engagement and reuse of their collections for creative and educational projects and thus ensure sustainability.

- **Increase the 3D collections and their quality on Europeana** - this action would have positive effects on various levels. It will enhance the overall quality and attractiveness of the Europeana Collections, increase the reuse in 3D print and virtual reality applications and, in this way, will positively impact our work on all our reuse markets (creative industries, education and research) as these applications are expected to be of higher demand across these sectors.

- **Explore the connection to education** – educators and students are a growing and high-potential maker audience. Maker activities and maker toolkits are already offered in and outside the classroom and this will remain a trend. Europeana might look into this opportunity by developing ad-hoc partnerships with industry producers (technology and play materials providers like LEGO) and investigate how we could link to makers in our planned educational activities.

- **Monitor the maker market and make re-evaluation in minimum two years -** the future market developments as well as the results from the initiatives above might provide valuable insights and change our decision with regard to this market.

6. Appendices

6.1. About the makers market

The maker movement emerged at the forefront of a 'craft revival' (Digital Meets Culture) in the context of the digital 21st century 'hands-on' society, (re)connecting craft to digital society (Nesta). The maker market brings together an existing community of physical (and including traditional) crafts practitioners with an emerging community of innovators (Wikipedia, Time) who creatively use new and rapidly advancing technical and digital processes (AdWeek) to develop new products (including software) or solutions (Nominet Trust). The movement demonstrates "hybrid forms of making" (Digital Meets Culture) and the "reinvention and repositioning of craft skills, techniques, patterns and materials, and their augmentation through integration of digital technology" (Digital Meets Culture, also The Guardian). This includes a trend for digital upcycling - giving life to 'old' digital content.

Terms used to describe this hybrid, online and connected (MIT Technology Review) community range from tech-influenced DIY (Makerfaire, Wikipedia, Huffington Post), to tinkerers (Maker Market Report, AdWeek), inventors (AdWeek, Makerversity), technologists (Fast Company) and engineers (Makerversity, Maker Market Report). One survey showed that most 'makers' described themselves using 4 or 5 terms, showing the complexity of the term 'maker' (Maker Market Report). The man who purportedly coined the term states that the "fairly neutral term ... could mean lots of things" (Fast Company). It has been said that "the term is now ubiquitous to anyone experimenting with their own builds and crafts" (The Hustle, also Makerfaire Ruhr). Makerversity suggest it "means anyone who is in the business of making for a living", as long as they are "building something or striving to make something new" (The Hustle).

It is predominantly a (high level) amateur or hobbyist (Maker Market Report) community. The most recent creative industry (CI) statistics (2011-2015) in the UK suggest the employment rate in crafts is declining (UK government), but statistics suggest that the maker movement is growing. For example, it is suggested that over 50% of the American adult population are makers (Time, Jeremiah Owyang), suggesting that the majority are non-professional participants.

The maker movement can be seen as a reaction against “mass production and consumerism, putting forth values of simplicity, sustainable living, and individual creation and design” (Digital Meets Culture) and “rising consumer demand in unique craft products” (Digital Meets Culture) This demand is “transforming our economy and the relationship between producer and consumer” (The Guardian).

The maker movement reshapes what ‘manufacturing’ and the ‘factory’ traditionally look like (MIT Technology Review). The number of (UK) manufacturing firms with zero employees (i.e. just the owners) grew by nearly 40 per cent over the past three years (in contrast to all other manufacturing firm sizes, which have dropped in numbers) (Nesta). Over 50% of (UK) crafts businesses “are unregistered micro businesses operating below the VAT/PAYE threshold” (Crafts Council (UK) 2014), meaning that it is predominantly a market of sole proprietors or small businesses with few employees. A report from Northern Ireland shows similar characteristics; most businesses have started in the past five years and have no employees (Craft NI). They could be defined as ‘craft careerists’ (Craft NI). There are few ‘monoliths’ but instead many smaller professional operations (the Guardian, Crafts Council UK), including “high tech startups, product and service developers, inventors, model makers, architects [and] self-employed/small businesses in the SME sector” (The Digital Creator Lab, also Crafts Council (UK) 2014).

This is nonetheless a significant market described as the ‘third industrial revolution’ (Maker Market Report). It is not ‘peripheral’ but a key component of the economy. Crafts are estimated to contribute over £3bn to the UK economy and the maker movement is considered a big employer (the Guardian). A large part of the maker/crafts market is challenging to measure in domestic and international markets (Tafter Journal), and the UK, for example, does not measure crafts export value (UK government). Data is lacking in many countries (Tafter Journal) and crafts is sometimes misleadingly measured on a European level under visual arts. A large part of the crafts’ production and trade still lies in the informal economy (Tafter Journal) - not surprising considering the non-professional make up of the maker market. However, “Etsy sellers don’t identify as hobbyists. 74% consider their Etsy shops as businesses. 91% aspire to grow their sales in the future” (Jeremiah Owyang).

Projections about growth of the market are complex. Some suggest that “scaling the handmade economy is an impossibility” (Wired, 2015, referring to Etsy products). It is not an easy path to business growth; crafts projects on Kickstarter have a success rate of only

24% and technology projects, 20%. In comparison, theatre and dance have a success rate of over 60%. (Kickstarter, retrieved 11 Jan 2017). However, initiatives like The Grommet have a "goal is that ...[by 2019], 10% of all products flowing through U.S. retail will be originating from independent small-scale Makers".

In many cases, growth projections in the maker market are measured by growth in the 3D printing market. Multiple projections suggest continued economic growth in the 3D printing market (Jeremiah Owyang), but that growth in individual makers using 3D printing techniques has slowed (Wired, 2013) or 'plateaued', suggesting that the typical maker customer has been reached (Gigaom). However industrial usage has strong potential (Wired, 2013, 3D Printing Industry). Europe is likely to grow faster and to have more revenue relating to 3D printing than North America and Asia-Pacific (who have to date dominated the market) within the next 10 years (Jeremiah Owyang). It has also been said that to revitalize economies, makers will have to collaborate with large industrial firms (MIT Technology Review).

Past growth in the maker market can also be seen by the emergence and exponential growth (Fast Company) of Maker Media, whose founder initiated Make: Magazine and the Makerfaire model. Maker Faires can be organised anywhere in the world by interested maker communities, benefiting from the Makerfaire brand and reputation. It has grown to include its own social networking site for the maker community, MakerSpace.

At the same time, the maker movement was preceded by the growth of Fablabs and hack spaces, which share a similar motivation and an overlapping offer (Make Magazine).

Key developments in the market

Demographic

- The crafts sector is predominantly female according to various sources; 70% in Northern Ireland (Craft NI) and 86% of Etsy sellers (Fortune).
- The digital maker market looks predominantly male. The Make Magazine readership is 81% male (Maker Faire); 34% of Maker Faire attendees are female (Maker Faire); 80% are male (Maker Market Report).
- Females reportedly are more likely to consider technological/digital methods as a means to an end and are "more likely to identify with arts and creation and describe themselves as coming to making via arts" (Intel).
- It is reported that women in all countries are 'significantly' more likely to use 3D printers than men (Intel), yet campaigns exist to widen digital maker participation to be more inclusive of females (Intel report).
- The audience is well educated (Maker Market Report, Maker Faire).
- Makers are getting younger in some cases (Craft NI).

Closer links between the maker and the market

- More direct relationships with the global market and innovating the retail experience and value of goods, including transforming producer/consumer relationship by moving away from mass produced goods to stimulating and meeting desire for bespoke products (Digital Meets Culture, The Guardian). This trend is reflected in the practices of large mainstream brands (eg Adidas providing customisable goods and Levis bringing Makers into the company to diversify their product offer).
- “Strengthening the position of the maker in the economy by opening up new digital business models” (Digital Meets Culture).
- “Contributing to the democratisation of design, with patterns, techniques, tools and resources being freely exchanged, and consumers often involved in co-creation of products and services” (Digital Meets Culture).
- A desire for provenance (Time, Maker Market Report) - the crafts/maker revolution is changing the way consumers search for products (The Guardian).
- The sector is increasingly networked (The Guardian). “Opening up new opportunities for learning, skills development and transmission by providing new (online) spaces for connection, communication, collaboration, learning and exchange for amateur and professional makers and craft consumers” (Digital Meets Culture). “...people are discovering their niche communities based on common interests. But wherever you go on the interwebs, you will encounter Makers—people sharing their projects, how-to instructions, tutorials, videos, patterns, source code and more” (Extension).

Lacks of business skills hinders broader commercialisation/scaling up in an already predominantly non-professional market

- Business skills and support around IPR are areas of need (Crafts Council (UK), pg 8).
- “Respondents reported being involved in innovation to develop new products, but far fewer reported going on to innovate in the commercialisation phase. This suggests that it is at these later stages of innovation where investment and support is most critical” (Crafts Council, pg 9).
- Networks that link makers to commercial businesses can be effective at meeting the gap between them and industrial scale production, and such networks can provide inspiration for makers to scale up. Business to business collaborations should be encouraged between crafts institutions and industry (Crafts Council, pg 9,10), and are necessary in revitalising economies and ‘revolutionizing industry’ (MIT Technology Review).
- The biggest barrier to innovation and collaboration in the crafts sector is funding (Crafts Council, pg 22). Significant numbers of makers define their business as ‘surviving and covering overheads’ (Craft NI).
- Craft workers typically earn less than the average salary and significantly less than the average creative industry worker in the UK (Crafts Council, also Craft NI average salary).
- “The shifts in the job market ask for changes in the means and approaches for the transmission of craft-related old and new craft skills, to educate new generations of

professionals with interdisciplinary skills sets and broad cross-disciplinary thinking patterns and approaches". These skills include:
  - entrepreneurship and strategic business skills
  - knowing the market, customers and competitors, along with a clear understanding of products positioning
  - knowing how to communicate the value of products, which can stand in product attributes, the process of making or maker's skills
  - skills to enable a seamless use of a variety of web-based tools for displaying products for sale, communicating attributes, and engaging with customers (all Digital Meets Culture).

The maker movement is accessible

- "At present new professional profiles, such as digital fabricators, acquire their skills in informal maker spaces...Some of these maker spaces slowly start to become systematised (e.g. Fab Labs)" (Digital Meets Culture).
- Local level partnerships (small scale) are potentially very effective. However in a digitally connected market there is significant potential in engaging with a macro network that links smaller communities and individuals.
- Maker and crafts tools are becoming democratised (Maker's Manual); consider the open days and reasonable use/membership costs at FabLabs (and the Fab Charter) and the reducing price of tech (Nesta).
- "More people are choosing to become Makers because...they can. Access to all the resources one needs to create is now available, and you don't have to be an engineer to be able to make. Everyone can make something" (Extension, also The Maker's Manual).
- Conversely, it can be more difficult ("unequal access") for makers in rural or isolated areas to capitalise on technological developments (eg digital manufacturing, e-commerce, physical maker networks and associations) to processes that encourage innovation (Digital Meets Culture, also see statistics about Northern Ireland's craft sector).

What does the digital/tech maker do?

- Using technology including 3D printers, computer-aided design programmes, open source hardware and laser cutters (The Grommet).
- From a Maker Market Report:
  - Over half of makers are using micro-controllers and 30% use 3D tools and technology.
  - Most makers are involved in projects using hardware or software (66 and 79% respectively).
  - Four in ten are using computer-aided design or layout and nearly as many are engaged in application development in their software projects. Only 15% are using mobile device software applications showing a preference for development on a hardware platform.

Where do they sell? (focus on digital retail only)

- Etsy is perhaps the most well-known craft digital e-commerce platform. Concerns exist about Etsy's widening seller reach (moving away from handmade and including outsourced manufacturing) (Wired, 2012).
- One article tagline suggests 'successful makers leave Etsy' (Wired, 2015). Makers have explored other ecommerce platforms like Shopify and Big Cartel (Wired, 2012) and it's 'easier than ever' to run your own online store (Wired, 2015).
- One report suggests that for makers in Northern Ireland the primary digital site for sales and marketing is Facebook (Craft NI).

Market segmentation

The Maker's Manual suggest that individual makers can be segmented in the following ways:

- **DIY-er** - part-time/non-professional maker, enjoys trying new things
- **Self-learning** - someone active in learning, involved in communities (physical or digital) and interested in the tech we use day to day.
- **Educator** - the practical explainer, passing on tips and watching others' projects grow. *Europeana focus*
- **Pro-maker** - someone with serious making skills who embraces new technologies as it emerges. *Europeana focus*
- **Entrepreneur** - a maker always with an eye on scaling up and maximising the bottom line. *Europeana focus*

The Europeana offer is digital. We should target high level amateur and professional makers (three categories of educator, pro-maker and entrepreneur above) who can demonstrate originality and excellence in using **digital and technological means** (e.g. computer-aided design, 3D printing or laser cutters) in concept, design and process to produce **digital or physical products**.

The statistics above suggest that this audience is predominantly **male** and **well-educated**. The market is **getting younger** and the digital maker is becoming more gender balanced.

Due to the online connectedness of the 'maker movement', we should focus on existing **online networks** and partner with **umbrella organisations** that primarily address the digital/technological maker and that span regions, nations and continents, e.g. Maker Faire.

6.2. List of consultees

The consultees are shown per type of organisation and background:

Museums & Libraries

1. Friederike Fankhänel, Art Direction and Museum Education, Studio MKG, Hamburg, Germany
2. Jenny Siung, Chester Beatty Library and lead coordinator of the Creative Museum project, Republic of Ireland
3. Jeroen de Boer, Innovation advisor for Fryslân Library Service, the Netherlands
4. Rob Davies, libraries practitioner and consultant

FabLabs/other makerspace

5. Don Undeen, manager of Maker Hub at Georgetown University, US
6. Karen van Moolen, Programme Developer, Waag Society, the Netherlands
7. Tom Tobia, founder of Makerversity, UK

Maker/maker network

8. Mark Brill, founder of Maker Mondays, Birmingham, UK
9. Thomas Flynn, Cultural Heritage Lead, Sketchfab, UK/US

Representative body

10. Meadhbh McIlgorm, Project Officer, Crafts Council Northern Ireland, the United Kingdom

Other

11. Jasper Visser, Independent innovation and community consultant, the Netherlands
12. Ingrid Maria Meijer, Brand Communication consultant & Creative Partnerships, Peanuts to an Elephant (former Etsy employee)

6.3. Semi-structured interview question suggestions

Experience

- Have you heard of Europeana before?
- Could you tell us about any experience you have using (promoting, encouraging, facilitating) digital cultural heritage content in a makers context?
-

Competitors

- Who else works in this field? Who can we learn from?
- Where do makers get their inspiration or resources from, normally?
- What do others offer that Europeana could learn from?

European makers context

- Can you reflect on the makers movements' differences and commonalities across Europe?
- What is the best way to approach a makers audience? *National vs local vs network*

Barriers

- Why do makers not use more openly licensed digital cultural heritage content in creative practices/new businesses? *Barriers*
- How do you think that Europeana's content/digital cultural heritage content could benefit makers? *Value, use*

Promotion/engagement

- How could Europeana better engage a maker audience?
- What areas of the makers market should Europeana focus on? *Our focus: high level amateur and professional makers who can demonstrate originality and excellence in using digital and technological means (eg computer-aided design, 3D printing or laser cutters) in concept, design and process to produce digital or physical products*
- How could Europeana plan opportunities (eg the Europeana Challenges) that could best attract a maker audience? *Topics, content*

Future

- What are the future trends for makers in the CHI/museum sector (or otherwise) that we should be aware of? *Trends*
- Who are our possible key partners?

6.4. Consultation responses

Following the order listed in Appendix 6.2.

Museums & Libraries

Consultation with Friederike Fankhänel
Interpretation of Art and Design, Museum für Kunst und Gewerbe
Hamburg, Germany

Introduction
As a providing institution, we have a good relationship with the Museum für Kunst und Gewerbe. Friederike is well known with the colleagues in Europeana and she is very aware of our goals and challenges. The organisation has focussed on a makers market in the past. They have experience in bringing makers into the physical museum space but less in terms of how makers interact with their digital archive. They have experience in working with external maker partnerships, e.g. they have worked extensively with Etsy, who were able to connect with the local makers audience to bring them into the museum. They plan to integrate the digital collections into their work in the future, but they don't want to differentiate so much between the promotion of physical or digital objects. They have ideas to collaborate with new partners, for example, DIY magazines, as a way of further reaching the maker audience.

Audience
The makers audience includes educational audiences. She notes that teachers are more likely to book time in the museum space rather than use maker materials/projects in their own classrooms.

Makers rarely start with brand new concepts, but rather, ideas develop from pre-existing ideas and practices. Creative practice is developmental. Similarly, products/outputs emerge from a maker's own design ideas, rather than being inspired by another image or movement.

Designers are distinct from distribution partners/platforms like Etsy, because they are less likely to associate with the variety of non-professional makers. Reputational impact means that they will make their own webshops instead. However, in certain regions (e.g. Central and Central Eastern Europe) the association is strong, and worth investing in.

Europeana content
Those makers using vintage illustrations may be good to target with our patterns, motifs, etc. This is a strong offer for professional makers, who have more of a perspective of their craft over time. Amateur makers are likely to focus on their skills development rather than take this perspective.

Engagement
There is little awareness amongst makers that cultural heritage content is available online, and this is the biggest challenge. Where it is known, there is interest, but no-one is 'jumping' to use this.

Makers often use Google images, with an awareness that one has to be careful how one uses the content. However, they lack the knowledge that some images can be used openly e.g. for remixing, commercial reuse. Similarly, she suggests that some museum staff wouldn't be able to confidently say how one can (or can't) reuse museum content.

Trends
3D printing in the museum scene is increasingly important (as it is in other fields/institutions, like education) because the technology is becoming cheaper.

Recommendations
- We should consider how the Europeana Challenge can address people at different stages of creating concepts/designs/products, e.g. at the early stage or advanced, and how we can include proposals of incorporating Europeana content, rather than making brand new products.
- We should explore how, with partners like Etsy, we can learn more about the type of heritage-related keywords makers are using to classify their content, and where such makers find their images/content.

Consultation with Jenny Siung
Head of Education, [Chester Beatty Library]
Dublin, Republic of Ireland

Introduction
Jenny Siung had heard of Europeana before but had not been directly involved in any of our projects. Her institution is not a provider to Europeana. She has a number of years experience in working with a maker audience at a significant international level. Their experience with makers (engaging with physical collections) has resulted in digitally printed material; sound installation; textiles; synthesiser work; digital projection.

Audience
In her experience, the maker market is a fitting collaborative audience for heritage institutions for a number of reasons, including that they don't patent and use models based on sharing and open source. The DIY culture is relatively cheap but a great way to source content and to allow new ideas and interpretations to emerge of collections.

They focus on an educational audience (12-14 and 15-17 years) facilitated by local makers and innovators, who interpret aspects of the collection in the sessions.

Makers normally take their inspiration from anywhere, but Google was mentioned as a big source as well as Google Cultural Institute.

She noted that a gender divide was an issue in some regions. 'Social awkwardness' (bridging the gap between the institution and the maker, as well as the quasi-isolated role of the maker) was also mentioned.

Engagement
The most effective interaction has been on a personal basis; this removes suspicion and/or any psychological barriers. Persistence was key in inviting makers to collaborate. Makers should be invited to collaborate, rather than taking ideas from them.

There was a need to remove the traditional image of the museum as closed/static. Current exhibition brings together professional 'makers' as part of the formal activity.

If makers like the content, they'll share it (the maker community is active). Twitter is a good communication channel.

Trends
Digitization of content is still happening, and so museums are still in the process of extending their practice to work with makers and digital content. Current examples of reuse focus predominantly on physical objects; the examples with digital cultural heritage is often more academic (i.e. less fun/engaging).

Recommendations

- If we were to issue a Europeana Challenge for makers, we should run a small pilot first, and then we would have something to build on to reach a bigger community.
- We should consider if any learning from the Mesch project is useful for us.

Consultation with Jeroen de Boer
Innovation advisor for Fryslân Library Service
The Netherlands

Introduction
Jeroen de Boer has extensive knowledge of Europeana and additional insight into how Europeana's content has a potential for a maker audience. He, alongside other library stakeholders, worked on a Creative Europe proposal (2016) that would bring Europeana's content to makerspaces in libraries in Europe (LibMaker). Europeana would have been a partner in this project, had it been successful. He is also a member of the Europeana member Task Force on public libraries and Europeana. At Fryslân Library Service he has led the development of the mobile Library (Fab) Lab.

Audience
Libraries in Eastern Europe are looking for information on how to combine traditional craftsmanship with 'new crafts' (e.g. 3D printing). Faced with a lack of financial resource they explore how to use cheap tools and technology to allow the user to make new things.

Europeana content
Jeroen suggests that makers can use all of Europeana's content, and, unlike other interviewees suggested, they would not be restricted by the lack of 3D content. This is because their role (and perspective) is to find solutions to problems and (for example) a lack of a 3D file would not be an issue if the content is interesting to them.

Engagement with the maker market
Libraries are a way to reach a broad 'maker' audience. This will not focus only on the audience Europeana identified as a priority; rather, it will follow the public library ethos of inclusivity. Some public libraries, however, have the ambition to attract professional (including digital) makers and entrepreneurs, and deliver economic outcomes, but this is rarely a focus. The resources provided by libraries (e.g. hackspaces) generally do not exclude professional participation. Academic or University libraries might be more appropriate if we have innovation as a core outcome.

Trends
Library-maker projects are often framed around developing digital skills, not only 'maker' skills. 3D printing is widespread and likely to continue. 3D printing, however, must be brought more firmly into the school curriculum. People may have increasing access to the technology but they do not necessarily have the skills to use it.

In the past 18 months there has been a focus on sensor technology (bringing coding, designing and hardware projects together) to make 'things' smart.

Recommendations

- Libraries could be a method to reach a wider maker audience (including young people in education), not necessarily a specialist (e.g. professional) audience.

Consultation with Rob Davies
Libraries practitioner and consultant
United Kingdom

Introduction
Rob Davies got in touch with us via Jill Cousins after we announced the launch of the makers pilot on Europeana Professional. He worked with many in the library field who are pioneering makerspaces in libraries (e.g. Jeroen de Boer). He was part of the consortium that put forward the LibMaker Creative Europe proposal in November 2016 that was not funded. This will potentially be resubmitted for Erasmus+ funding in March 2018 with the outcome of a network to give coherence to the LibMaker project/ movement.

Audience
In the library context, the definition of a maker is broad. It includes crafts, coding (e.g. Coding Club idea that incorporates the programming side), although 3D printing was noted as a the main signifier of a makerspace. However, Makerspaces are less directed to developer community (as a contrast to the hacker idea) but more open to school education (teachers/pupils). The digital creation of apps and tech is supported in fewer libraries, although some are working in related areas, e.g. 3D printing and robotics.

Secondary age school children are users of makerspaces in libraries, and the connection of libraries to formal school education is already important but not consistent in practice or definition.

Engagement
Libraries are good channels to provide facilities/equipment, support and activities (expertise, training and projects/events). They are a good way of getting Europeana content to the public.

Makers like content that is personal and local, particularly when relating to education. Content should be better searchable by place, because of the importance local content has for makers.

People are using digital cultural heritage content but for the most part, people don’t know what’s there and what they do with it.

Trends
The presence of public libraries and makerspaces is a growing trend, with many libraries creating spaces and/or implementing projects. The public library of Cologne, and others like Jeroen de Boer, are leaders in this field.

Libraries are designing spaces that meet user needs (bottom up design thinking) - this is a positive way to engage with the public/makers.

Recommendations

- Could we make a toolkit for external users to #makewithEuropeana content in the public library context?
- Consider aligning with various events and initiatives:
    - European Maker Week.
    - European Code Week
    - PL2020
- Bergen libraries Europeana schools project (no other information)
- We should align our activity with the libraries task force recommendations re makers.
- The school/education maker audience is a valuable audience for Europeana in terms of competencies in technical education, like digital literacy.
- We should use existing networks (e.g. via library networks) to get our content to makers.
- Library professionals should be more aware of the types of projects that can use heritage content, to be able to pass this on to makers/demonstrate. Europeana should facilitate the showcasing of these examples.

FabLabs/other makerspace

Consultation with Don Undeen
Leading the development of the MakerHub at Georgetown University
United States

Introduction
We were recommended to speak to Don Undeen by our consultation with Jenny Siung of the Creative Museum project. Don was aware and to some extent has worked in the wider Europeana network. Don has led the setup of the MakerHub at Georgetown University which opened in October 2016 as part of the library. This is a community network or drop in makerspace with 'hands on' equipment like printers and laser cutters and for bookbinding. Advanced workshops are also scheduled with University departments. He previously worked in the Media Labs in the MET, working with museums and tech companies at the intersection of art and tech and business.

Europeana content
3D content is often the stimulus for makers, and it's hard to do much with 2D content. Digital makers may want to use Europeana (museum) content for non-museum projects (e.g. games that are made better or more interesting through adding this content).

Engagement
In terms of physical communities, the MET were able to embed themselves in the makers community, going to events and speaking to makers, inviting makers to the museum and discussing the potential. Relating to digital communities, the Rijksmuseum Studio is a good model to consider for engagement, which brings together content and people in one place.

Don thinks that our approach of pushing different types of content is good. Cultural heritage content is a 'goldmine' for makers but it is so far unexploited.

Trends
Appreciation of cultural content by makers is reportedly higher in the EU than in the US. The US is focused on building business models first.

Recommendations
- Consider partnerships with UbiSoft, SketchFab.
- Consider how you can 'embed yourself' in the community of makers. And/or, embed a maker in your community; for example, a residency.
- Articulate the value of Europeana's content and how it can be reused to maker entrepreneurs; we should target those thinking from a business point of view.

- Identify patterns/designs, textiles, etc., and make the link between this and types of artistic and maker practice. We should improve our curation/showcasing of developed products and of the objects that have been used in these products.

Consultation with Karen van Moolen
Programme Developer, [FabLab Waag Society]
the Netherlands

Introduction
We have been working together with Waag Society within the projects Apps4Europe and Europeana Space. The Waag Society has a strong link to the makers in Amsterdam through their local labs and a global reach through Waag Fab Lab affiliations (MIT).
Waag operates three main labs for makers:

- Fab Lab (3d printing, laser cutting)
- Open WetLab https://waag.org/en/lab/open-wetlab
- Textile Lab - https://waag.org/en/project/textilelab-amsterdam

These labs are cross-linked. For example, the Wet Lab focuses on using biotech in textiles, for instance, using bacteria for sustainable textile dyeing (and thus decrease pollution); Textile Lab experiments with 3D printing in textile.

Waag defines makers quite broadly: people with the mindset and desire to change and make things. They don't make any segmentation based on professional association (students and professionals); specialisation (people with different backgrounds - textile, technical, design) or age groups.

Europeana content
The main focus of Waag Fab Labs is on the making processes and tools, not on the content. Waag introduces the makers into various new technologies and tools (ranging from biotech to 3D print) and let the makers experiment and develop their own projects. In that sense, they and their communities haven't worked with cultural content and are not sure about its attractiveness to makers (but are willing to test it).

Engagement
Makers are reached mainly through social media; however, the long-term engagement is built mainly through physical meetings. It is important that during these meetings the organisers offer something valuable and give stage to the makers, let them define the agenda. There are initiatives encouraging knowledge sharing among makers, such as Fab Lab Academy and Textile Academy. These are usually several months long programs consisting of classes and project work outside the classroom. For example, the second edition of the Textile academy will run between Sept 2017 till Jan 2018 and will consist of 13 weeks classes followed by 3 months work on personal projects (outside the classroom). The academy works with small groups (last textile academy had 12 students) and across themes (no specific themes are given). Results vary but it seems that they are mainly on the experimental side.

In addition, the Waag organises textile evenings and monthly events which might be a possibility for testing the interest in the Europeana content. Another form of onsite engagement is the Makers Bus initiative, a 4 month tour with a branded van in Europe to encourage civil participation and experimentation with science. Focus on bio technologies.

Recommendations

- Crafts is a potential area of experimentation
- Organising a Europeana Challenge might be an option and Waag is confident they can involve their makers communities.

Consultation with Tom Tobia
Founder, Makerversity
United Kingdom (also Netherlands)

Introduction
Tom had no prior awareness of Europeana. His interest in makers emerged from a desire to maximise opportunities for people to 'create stuff' professionally and non professionally, moving away from a 'consumption only' space. Makerversity has social goals: creating city centre space where 'stuff' can be produced and not just consumed; supporting communities of people who do the most interesting stuff; and providing opportunities for young people to pioneer new ideas and to provide future jobs. He has experience with working across Europe in Makerversity but also with an EU funded project.

Audience
Tom dislikes the term maker, finding it a barrier to people who are making.

The Netherlands and Northern Europe probably has a more literal definition of maker (including engineering, hardware, electronics, etc.). They are constantly trying to diversify the makers who are engaged in Amsterdam. London doesn't have such a dominance of one type of maker. Diversity (gender, ethnicity) is better in Amsterdam than London (where they have to actively search for diversity). The Netherlands has a more calculated approach (literal) to innovation, drawing less widely on inspiration.

He has worked on an EU project with partners (makers and higher education institutions) in 9 countries. Southern Europe was much more interested in heritage than Eastern or Central Europe, with Northern Europe falling somewhere in between. The movement specifics changes depending on where they are. He gives an example of Amsterdam that is much more outward looking than London, due to the fact that London has so much inspiration and influence.

Engagement
This audience finds content in traditional places: google, github, pinterest, opendesk, wevolver (open hardware sharing), instructables. It is a tricky audience to reach en masse.

Makers are sceptical and independent. It is difficult to approach and convince them, and as a large funded organisation, they may be wary of Europeana. The grassroots, local approach works. Makers are also sceptical of social media (of some platforms less so, like Instagram).

Makerversity London might be able to promote Europeana but it would not reach the right audience in Amsterdam.

Trends
They are currently looking into how they can support makers without spaces.

We are currently seeing the peak of 3D printing. People are trying to reach a balance between price, customization and time.

The makers movement and new technology (empowering makers movement everywhere) is having less social impact than expected (he states that the movement is full of middle class graduates who would find a way to do what they're doing anyway).

People will be able to invent and make prototypes easily, but they are still like to go to China to get it manufactured. At the same time, the movement has a role to play in small scale local development responding to empty high streets.

Maker/maker network

Consultation with Mark Brill
Senior Lecturer in future media, Birmingham City University, founder of Maker Monday
United Kingdom

Introduction
Mark Brill is a contact of Europeana having met at a creative conference in Belgium in 2016. He describes himself as a technology based maker (creative application of technologies), with a particular interest in cross-disciplinary (undisciplined) approaches. He hadn't heard of Europeana when he met us in 2016.

Audience
Across Europe, he considers that some of the 'best' work is coming from Southern Europe, including Spain. It is suggested that this is because of the employment challenges and that the lack of resource forces/inspires new creativity/business models and entrepreneurialism. Northern Europe (e.g. Germany) is more focussed on social enterprise with social value as a driver. The UK is good at building communities of innovation to stimulate and support tech startups. Central Europe is described as having a 'pessimism' that derives from a lack of money without inspiring creativity (like in Spain).

3D printing as an artistic objective is of interest to his community - e.g. Glitch Art - creating a new piece from exciting images. Makers are interested in consuming (and by implication, using) all types of art and media.

Europeana content
The website is a 'beast' and a 'rabbit warren'. However, any content 'is better than none'. It is good that we have 3D content available, but we need to be sure that what we have is the highest possible quality, consider how to promote this, and to what communities.

Engagement
Makers find inspiration from anywhere. An example includes advertising which reflects contemporary life via cultural reference points.

Facebook is a good channel (in his experience with Maker Monday), as it is the easiest for building and reaching communities. Many communities are already there and it delivers content better.

Trends
Virtual reality is the strongest emerging media/technology but 'nobody gets it' yet - it's too new and its uses are only beginning to be explored. 360 degree video is also becoming an important tool whose importance is not yet known.

The mobile device is becoming the most important communication tool (e.g. selfie tool, documenting everything in our lives, providing knowledge) and the implications of this are still to emerge. Current media behaviours (e.g. selfie poses, presentation) will impact future creatives but we don't know how, aside from the rise of the importance of storytelling through the visual medium.

Technology is not the financial barrier it used to be, particularly at concept level.

Recommendations

- We should collect exciting and interesting reuse cases to answer the question of 'how can I use this?'.
- That Europeana should explore working with partners such as the Steamhouse project in Birmingham, an initiative that is tasked with creating new businesses with new media makers.
- Launch an open call for maker submissions. The prize does not have to be big e.g. 2.000 EUR because small pots of money spread around make better results. Such challenges could be themed along the lines of, e.g. how to build a better world, or any other 'big question'.
- If we don't know how our content can be used, we should be open to facilitating and supporting experimentation.

Consultation with Tom Flynn
Cultural Heritage Lead, Sketchfab
United Kingdom

Introduction
Tom knows about Europeana from having worked in the cultural heritage field. He has made 3D models of content in the British Museum and is highly regarded both now and before he joined Sketchfab. He is a pioneer in 3D scanning, and has joined Sketchfab which is the most widely used 3D viewer (including being embedded on some of Europeana's records). 3D printing affords museums with a lack of physical space a way of exposing their content to a new audience.

Audience
He recommends our focus should be on animators, designers in 3D, video games, film, but to do so we need to map the needs of different industries.

Education is important (consider Sketchfab in the classroom) with materials being made available to download and print in the classroom. Sketchfab can help annotate the educational context of an item.

Engagement
When makers use 3D content on Sketchfab, it's challenging to commercially reuse it (restrictions of CC licenses). Soon Sketchfab will allow commercial licenses to be applied.

Sketchfab also facilitate the teaching of skills to make with and use 3D content. 3D printing is still expensive and unproven. We need to showcase reuse cases. 3D scanning has to develop alongside the industries where the content will be used, e.g. in VR experiences. Institutions can be concerned about unwanted reuse.

We need to go to where the Makers are - for example, the Sketchfab maker and Internet of Things (IoT) groups, Twitter - to find the people who will like and share our content.

Trends
Often 3D scanning is unfunded and museums do not (yet) invest significantly. This is likely to change, 3D scanning could become as normal as taking photos. Tom facilitates training for staff in this context in many museums that are interested (including art universities). 3D scanning is important for education, engagement, documentation, conservation, so the availability of 3D content may increase as a result.

They are investigating how 2D images can be arranged/made useful in 3D.

Sketchfab content can now be paired with audio, allowing for a richer viewing experience.

Recommendations

- We should consider running a challenge in collaboration with Sketchfab. Prizes are small (400 GBP) but this could provide good reuse cases.
- We should be more rigorous in accepting content labelled ‘3D’, making it instead truly usable. PDFs are not usable 3D formats. We could try to crowdsource the converting of 2D content into usable 3D formats.

Representative body

Consultation with Meadhbh McIlgorm
Project Officer for [Craft Northern Ireland]
United Kingdom

Introduction
Meadhbh McIlgorm had no knowledge of Europeana before we approached Craft NI. She was surprised at this, considering her background as a maker and then in arts management. She describes herself as a 'lapsed maker' (in glass design), and now works for Craft NI, a sector-lead body for the promotion and development of the design-led contemporary craft industry in Northern Ireland.

Audience
She suggests that Craft NI and other craft representative bodies refer to makers/craftspeople as 'designer-makers'. Applied art - making a product with a purpose or a use, even if it is designed for aesthetic value as well - is central to the designer-maker personality. They are problem solvers. Designer-maker is also a term that engenders a sense of professionalism.

Craftspeople (or artisans) may continue to self-define as such, where their art is centered around the learning and preservation of traditional crafts. They would not be offended by being called a designer-maker but designer-makers potentially would be offended by being referred to as craftspeople. As time passes, she suggests that fewer people care about labels and terminology. She feels that there are more opportunities available for those self-defining as makers.

In her experience, Europe has a lot of similarities in terms of its communities of makers. The US is different in that US makers are more confident and self-assured in their practice and self-definitions. There is a cultural difference among consumers in Europe regarding the willingness to pay for handmade items, and she suggests that this is better in Scandinavia and in Germany.

Europeana content
Europeana has too much content and she struggled to understand our offer for makers when she looked at the website. She saw a good synergy with the fashion content (because this has an 'everyday' application and relevance). Curated content is most useful for makers.

She is not sure if our content is useful, because there is only so much information that can be taken from a record (e.g. makers want to know construction techniques, the context).

It is challenging to interpret a 2D object to make a 3D product, but this is not limiting. 3D printing is not common enough (in the Irish context) - the majority of makers are not doing anything with this.

Makers are most inspired by their environment and culture, particularly, she suggests, if you are working with physical materials. Europeana's content is far removed from everyday life and the object's purpose, so we need to create the 'narrative' that bridges the connection between the maker and the content. Rather than giving them a blank page, when approaching makers, we need to show them what they can do (case studies) and tell them why they should be interested in it.

Consider how to build local partnerships with museums to present objects in context, more similar to how they would be in everyday life. A knowledge institution can tell the story of the object rather than just presenting it. Stories for one object can help you find a connection with a collection of objects.

Engagement
Makers respond well to a brief (e.g. a Challenge). In this context one can set up a question and propose a problem that they need to solve, rather than giving a blank page. Similarly, she suggests a residency or a challenge that makes makers break from their normal production.

Makers often work in isolation, or in studios, so issuing a challenge that might bring together multiple makers would be interesting.

Makers have portfolio careers. They are likely to be multi-skilled and we must acknowledge this in our communications. For example, we should not only focus on 3D printing, but note that those who use 3D printing might also be developing and applying 2D images into objects.

National organisations are important to reach makers, but even more so are local organisations and networks. This is particularly relevant if you consider that most makers are sole entrepreneurs and can only grow to a very limited extent and hence often work in a local context.

Trends
3D printing is having some impact on makers, as is the general connection of technology to crafts techniques.

Makers increasingly must be successful in 'everything digital' - from incorporating new technologies to marketing their work, exhibiting it and selling it. It requires a lot of adaptation and effort from makers, who are already managing very small enterprises.

Makers need more training with regards to copyright and protecting their intellectual property.

Recommendations

- Issue a challenge or a brief to inspire makers to make with Europeana content.
- Promote curated content for makers.
- Consider how to promote locally relevant content, which is often most appealing to makers.

Other

Consultation with Jasper Visser
Change agent, social and cultural innovator ([entrepreneur and advisor])
The Netherlands

Introduction
Jasper was recommended to us to talk to because of his role as advisor to the Creative Museum project (via Jenny Siung). His work focuses on helping organisations connect with communities around a shared idea, in all types of creative practices.

Audience
Makers are, on the basic level, similar wherever they are. At a more granular level, he feels that there are still more similarities than differences. They share a strong set of values but there are of course big differences in what they do, how they collaborate, and how they make decisions. Regional differences exist to the extent that there is a desire from many makers to improve their local community using whatever resources are available.

He argues that the term 'makers' is meaningless and the focus we put on it hides those who are doing the work. The non-maker is equally important, how do we reach them when we don't 'speak their language' or they don't identify as a maker?

Engagement
Some maker communities only exist in digital communities, and so our mapping and collaborations should include digital-only communities. Any digital strategy requires careful consideration of smaller communication channels, avoiding a reliance on Facebook or twitter (e.g. when searching and communicating with digital communities). At the same time, a significant part of the maker community is physical meeting (e.g. at events). Only digital engagement will not effectively engage the maker movement. We need to 'get out there' and find the activity which is already going on, and build on this. This should provide starting points for collaboration. We should build on existing mapping.

In his experience, partners are local - they can reach out to the local maker community. Makers do want to use cultural heritage and numerous examples exist (not given) where makers engage with heritage to improve their communities. They may, however, not work with the institutions as they don't see the connection with the institution and the content on display. Museums/Europeana should make the possibility of collaboration explicit.

There are few examples of organisations of our size connecting with digital communities successfully. Examples given were IFLA (unsure of what project, but he mentioned to contact Testina), the Smithsonian Transcription Centre crowdsourcing tool, and the Rijksstudio.

Trends

The act of people coming together to fix something will become more mainstream (to involve everyone). Those doing so will mean that everyone is likely to become 'a maker', but won't identify as such.

Recommendations

- He quoted seven points about engagement with makers from his research/past activity:
  - Distributed capabilities (different skills at the table) - leave it open for the potential contribution of the maker.
  - Collaborations become leaderless - hierarchies disappear.
  - Make it fun - people feel comfortable, respected.
  - Work with existing communities, don't build new ones.
  - Collaborative organisation - do it together, all of it, including organising the event.
  - People share impactful goals - engagement is not the objective.
  - Lots of exercise - learning by doing, and building on past experiences. Have to invest in the process to get real results.

Consultation with Ingrid Maria Meijer

Brand Communication consultant & Creative Partnerships, Peanuts to an Elephant
The Netherlands

Introduction

Ingrid has twofold experience with makers: she used to be a maker herself (Fashion Designer) and she has worked for Etsy.com, a marketplace where makers can sell their goods world wide.

Audience

Ingrid has worked with both amateur and professional, mostly with women in the age group of 20-40 years. She has most experience with makers in The Benelux, but through Etsy she has worked with makers from various countries, from the Ukraine to Canada to France. Their specialisation varied depending on the professional level: amateur makers have been occupied in illustration, paper cutting, photography and knitting & crochet, whereas professionals have worked in fashion design (incl. accessories), fabric print, ceramics, graphic design, furniture/ Interior design, laser cutting (wood mostly) and architecture. In her view, Europeana could target all of the above specialties except possibly 'knitting & crochet'.

Engagement

Ingrid advised to approach makers through a good mapping of their journeys (like a customer journey map) and make sure that we have a matching social media/SEO/SEA strategy that always redirects to a place (our website/platform) where matching information can be found and CTA's (Call to Action) are added. In her view, a local initiative doesn't seem effective for Europeana, unless we have a big network or community that we can activate. She advised to keep it digital and international (centralised) as it matches our proposition. Platforms like Etsy are a great place to get in touch with a lot of makers at once but platform like these don't readily advertise (even if it is non-profit) and partnerships have been limited a lot, due to labour intensiveness vs ROI.

Social media are the best channels to reach makers: namely, Instagram, Pinterest, YouTube, Facebook, and maker blogs (where the influencers are).

Ingrid considers inspiration to be the biggest motivation for makers. The competitions and crowdfunding support are a great idea and she advised to build on that together with a good social media campaign. Most makers are short in funds and guidance in funding would definitely gain some traffic. The visibility gained by winning a competition should not be underestimated as an incentive for makers.

Europeana content

Depends on their journey, some makers may be inspired by an exhibition and Google further, others go crazy on Pinterest. Some makers also watch how-to videos on YouTube and copy the process.

Ingrid would say that cultural content is interesting for makers, maybe not all the amateurs. As a former maker, she wasn't aware of Europeana before the Rijksmuseum put her in contact with us at one of the Europeana Creative events in Athens. Ingrid loves most of our collections and feels that art schools could use them as a resource (maybe even as a mandatory course). That said, she feels that the Europeana platform (site) could be a bit more contemporary in its design.

Trends

According to Ingrid these are the most relevant trends for makers:

- Nature (environmental projects). There's a longing amongst creatives to move to old farms, go hiking (locally), romanticise on becoming self sufficient, etc;
- Collage is back in photography;
- Fabric print is taking off in the Netherlands due to more (cheaper) options than a couple of years ago.

Informal consultation at TheNextWeb conference 2017

3D Hubs, The Netherlands

Introduction

3D Hubs is an online 3D printing service platform and the world's largest network of manufacturing hubs. It operates a network of 7,251 3D printing services in over 140 countries, providing over 1 billion people access to a 3D printer within 10 miles of their home.

The representatives of 3D Hubs didn't know about Europeana but were curious about our offer.

Audience & Engagement

3D Hubs offer services for professional makers specialised in digital industrial manufacturing. As 3D Hubs operate as a commercial company and communicate with makers in their business capacity (customers or partners).

3D Hubs also have a link to education and support students in building strong foundations in digital manufacturing early on. They have created plenty of resources for classes. An example is their support for starting an own University Hub, including an easy-to-use order management system to manage the 3D printers for the school.

Recommendation

3D Hubs couldn't see a direct link between the cultural heritage content and 3D Hubs operations but made a general recommendation on how to make our content more suitable for 3D printing. Our collections must offer content in vectorised file format so that these can be easily used by makers for 3D printing projects.

6.5. Sample tweets from the online mini-campaigns

#MakewithEuropeana: Art Nouveau season

https://twitter.com/europeanalabs/status/864397418300833792

Europeana Labs
@europeanalabs

Interested in #ArtNouveau fashion & jewellery? We selected #open items to inspire #makers bit.ly/2oO3R5h #MakewithEuropeana #reuse

10:19 AM - 24 Apr 2017

14 Retweets **16** Likes

Europeana

14 16

Add another Tweet

https://twitter.com/europeanalabs/status/856422266271408129

Europeana Labs
@europeanalabs

We're calling #makers & the #makersmovement to #MakeWithEuropeana's free to reuse collections #ArtNouveau bit.ly/2oBEiqh

10:25 AM - 5 Apr 2017

18 Retweets **14** Likes

Europeana

18 14

Add another Tweet

https://twitter.com/europeanalabs/status/849538588014497795

Maps for Makers

Europeana Labs
@europeanalabs

Cartography: the practice of drawing maps. Get creative with @EuropeanaEU's map content! #Makersmovement bit.ly/SearchMaps

10:07 AM - 13 Jul 2017

26 Retweets **34** Likes

Europeana and The British Library

26 34

Add another Tweet

https://twitter.com/europeanalabs/status/885410391412617217

Europeana Labs
@europeanalabs

Are you fascinated by #maps? Discover how early cartographers represented the world as they knew it: bit.ly/WorldMapsofEur… #MakewithMaps

9:51 AM - 26 Jul 2017

36 Retweets **53** Likes

Europeana

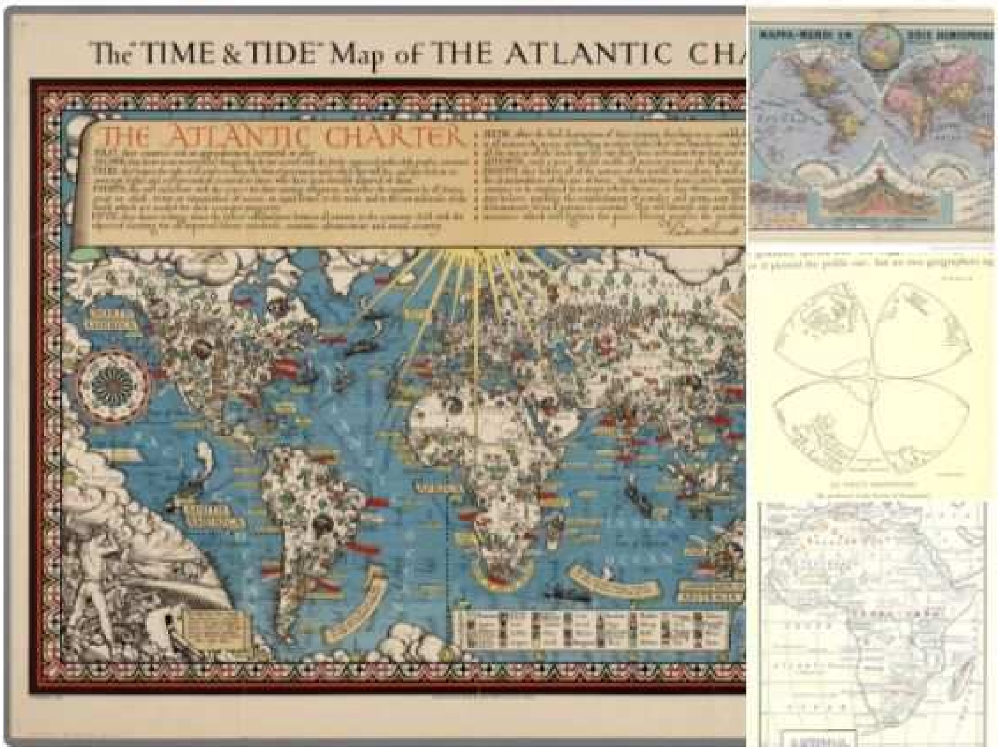
1 36 53

Add another Tweet

https://twitter.com/europeanalabs/status/890117281623179265

Europeana Labs
@europeanalabs

Today we launch our second #makersmovement campaign! Find inspiration in our openly licensed #maps #makersgonnamake bit.ly/MapsforMakers



10:01 AM - 4 Jul 2017

28 Retweets 36 Likes

Europeana

28 36

Add another Tweet

https://twitter.com/europeanalabs/status/882147250440470528/photo/1

Make it Festive

Europeana Labs
@europeanalabs

Show us what you #MakewithEuropeana! We are looking for #makers who use @Europeanaeu content. Check out our latest blog: pro.europeana.eu/post/makeitfes ...

10:55 AM - 13 Dec 2017

33 Retweets 37 Likes

Europeana, European Maker Week, emergents makers and 2 others

33 37

Add another Tweet

https://twitter.com/europeanalabs/status/940882747807207424

Europeana Labs
@europeanalabs

#MakeWithEuropeana inspire #makers with Europe's digital #culturalheritage @EuropeanaEU #MakersMovement pro.europeana.eu/post/makeitfes ...

2:17 PM - 11 Dec 2017

22 Retweets **26** Likes

Europeana and European Maker Week

22 26

Add another Tweet

https://twitter.com/europeanalabs/status/940208921834344448

Europeana Labs
@europeanalabs

#MAKERS We hand-picked beautiful openly licensed images to inspire #holidaycards! Send messages of good fortune and best wishes for a #HappyNewYear pro.europeana.eu/post/makeitfes ... #MakewithEuropeana

10:05 AM - 18 Dec 2017

28 Retweets **40** Likes

Europeana, emergents makers, European Maker Week and 2 others

28 40

https://twitter.com/europeanalabs/status/942682111168958466/photo/

6.6. Makers survey questions

June 2017, Mallorca

Section 1: Tell us about you.

1. Are your maker-related activities your main occupation? (professional vs amateur)
    a. yes/no
2. What is your specialisation?
    a. Textile
    b. 3D
    c. Laser cutting
    d. Crafts
    e. Other: please specify (field for open text)
3. What are the most effective channels to reach you?
    a. Facebook (please give examples, e.g., which pages, Facebook ads, etc)
    b. Twitter (please give examples of which Twitter handles or hashtags you consider most relevant)
    c. Makers events (please give examples)
    d. Preferred industry partner networks (please specify)
    e. Other: (please specify)

Section 2: Share your experience with Europeana and Europeana content.

1. Had you heard of Europeana before this workshop?
2. Have you ever used cultural heritage content in your practice before? yes/no (if yes, when and how? Please give examples.)
3. Where (else) do you usually find content to use in your practice, that we can learn from?
4. What type of cultural content do you find most appealing? Think of themes, media (images/3D), etc.
5. What challenges have you experienced working with Europeana content during this workshop?
6. What, if anything, do you intend to do next with the idea developed in the workshop?

Section 3: Help us improve our offer.

1. Why do makers not use more digital cultural heritage content in creative practices/new businesses?
    a. Don’t know about the content

    b. Don’t need it for their purposes
    c. Need inspiration but don’t need to use the content
    d. Can’t find the content you need
    e. Prefer other sources to find content
    f. Other (please specify)
2. How could Europeana encourage you to use more digital cultural heritage content in their practice?
3. How could challenges with cash awards attract and inspire a maker audience to use Europeana content? What amount would you recommend as a cash prize?
4. What are the future trends for makers? Please tell us in particular about any trends relating to the use of cultural heritage content by makers.

(3 questions relating to the workshop methodology have been removed)

6.7. Twitter survey

Questions

europeana Makers, tell us what you need from us!

#MakewithEuropeana

1. What content media format are you using most in your maker projects?

- Images
- Text
- Audio
- Video
- 3D

2. What is your main making technique?

- Textile
- Crafts
- 3D printing
- Laser cutting
- Other (please specify)

3. What theme would you like to see for our next makers campaign?

- Natural history
- Pattern designs
- Photography
- Other (please specify)

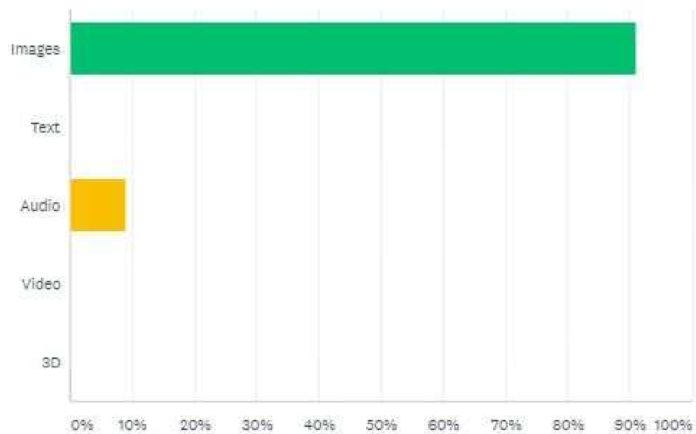
Replies

Q1

Customize Export

What content media format are you using most in your maker projects?

Answered: 11 Skipped: 0



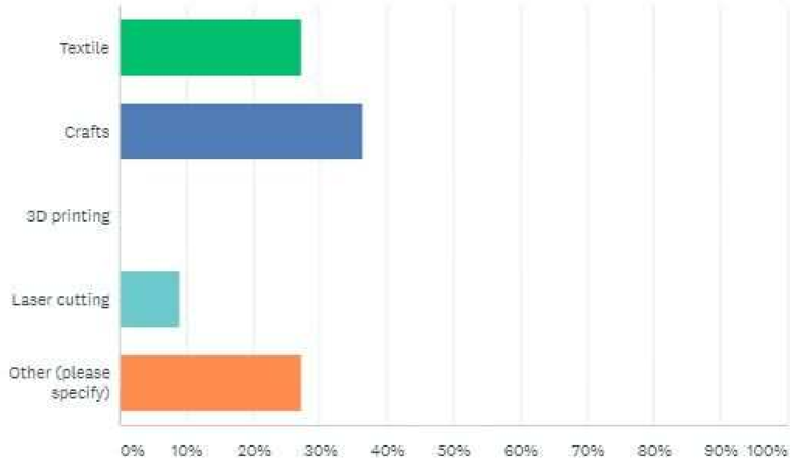
ANSWER CHOICES	RESPONSES	
Images	90.91%	10
Text	0.00%	0
Audio	9.09%	1
Video	0.00%	0
3D	0.00%	0
TOTAL		11

Customize Export

Q2

What is your main making technique?

Answered: 11 Skipped: 0



ANSWER CHOICES		RESPONSES	
Textile		27.27%	3
Crafts		36.36%	4
3D printing		0.00%	0
Laser cutting		9.09%	1
Other (please specify)	Responses	27.27%	3

RESPONSES (3) TEXT ANALYSIS MY CATEGORIES (0)

Categorize as... Filter by Category Search responses

Showing 3 responses

decoupage
8/8/2017 12:03 PM View respondent's answers Categorize as...

article
8/2/2017 12:23 PM View respondent's answers Categorize as...

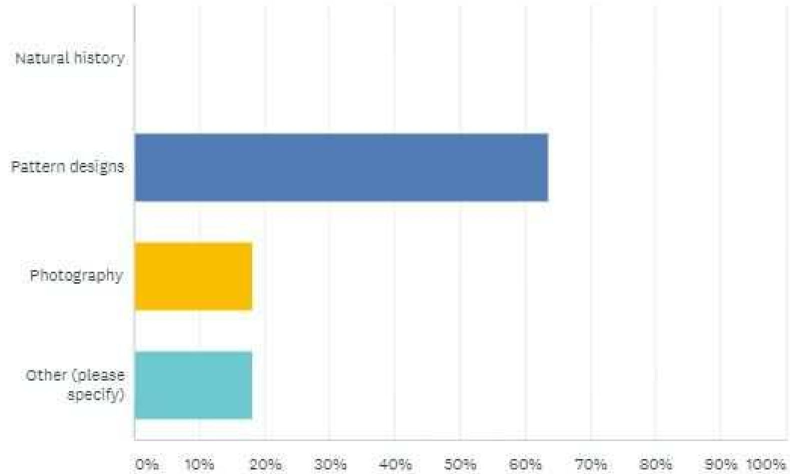
Sampling
8/2/2017 11:39 AM View respondent's answers Categorize as...

Q3

Customize | Export

What theme would you like to see for our next makers campaign?

Answered: 11 Skipped: 0



ANSWER CHOICES		RESPONSES	
Natural history		0.00%	0
Pattern designs		63.64%	7
Photography		18.18%	2
Other (please specify)	Responses	18.18%	2

RESPONSES (2) TEXT ANALYSIS MY CATEGORIES (0)

Categorize as... Filter by Category Search responses

Showing 2 responses

maps

8/2/2017 12:23 PM View respondent's answers Categorize as...

Music

8/2/2017 11:39 AM View respondent's answers Categorize as...

D100. Japanese Lantern Makers
Unbekannt

1880-1890, Museum für Kunst und Gewerbe Germany CC0

europeana

#AllezCulture

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