MediaFutures

DELIVERABLE 4.2

DATA INNOVATION TOOLKIT V2

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Executive Summary

This deliverable outlines the methodology and development process of the MediaFutures toolkit, including how it has been adapted over time, the engagement of users for testing and a link to the live toolkit.

The toolkit reflects, as much as possible, the content and journey of applicants to, and participants of the MediaFutures support programme. Consequently, it is of value not only to applicants to and participants of future similar programmes, but also to those who wish to access such support outside of a structured programme. It provides insight and guidance across five subject areas: Human/AI interaction, Data and AI regulation, Entrepreneurship, Citizen participation, and Science-art interfaces.

It was developed through a combination of literature reviews, followed by iterative interviews with thematic analysis and user testing.

1 Introduction

The purpose of this document is to provide insight into the development of the MediaFutures toolkit, as well as the methodology underpinning it, and to present the resulting toolkit itself. It describes the evolution of the toolkit (section 2), the methodology applied to create its content (section 3), its structure and presentation (section 4), and its programme of user testing (section 5).

2 Evolution of the toolkit

The MediaFutures Data Innovation Toolkit was originally conceived as an open-source resource that would facilitate knowledge transfer towards future programmes like MediaFutures, inform future calls and policies, and increase the overall impact of the MediaFutures programme itself. Our thinking about the toolkit, what it should focus on, and how it should be used by our target audiences, has evolved with the programme, and the insight we gained throughout. From its conception, and through its iterations, the toolkit was driven by the expertise of the MediaFutures partners across a range of fields, and collates insights gained from our work with start-ups and artists in the MediaFutures support programme. As such, it is to be seen as a co-creation of the consortium and participants.

The original toolkit focused on five areas: 'Human data and AI interaction', 'Legal and ethical questions', 'Entrepreneurship and sustainable business models', 'Social impact and citizen participation', and 'Science-art interfaces and innovation'.

Data Innovation Toolkit									
Human data and AI interaction		Legal and ethical questions		Entrepreneurship + sustainable business models		Social impact and citizen participation		Science-art interfaces and innovation	
machine learning	human-centric AI	data sharing	data protection	entrepre-neurship	co-design	citizen engagement	digital democracy	media studies	citizen awareness

Figure 1: Overview of original toolkit content plan

It was initially conceived as a resource to provide practical advice and guidance to:

- **entrepreneurs and artists** that want to build new, sustainable data driven business models with a social or civic outlook;
- **organisations that wish to collaborate with artists** to generate increased value of innovative products and services;
- **artists who wish to collaborate with organisations** to support digital democracy, citizen engagement, or science education through digital innovation;
- **professionals, such as journalists or other public content creators**, wishing to increase user generated content and its diversity, and implement best practices against dis-/misinformation;
- **in-house legal teams of startups and SMEs,** and those engaging in user-research and data-driven experimentation, for raising specific ethical questions;
- **civil servants or government departments** wanting to facilitate successful citizen engagement around data, innovation, and dis-/misinformation;
- **NGOs and other non-profit organisations** that wish to achieve impact via the social media value chain.

We then decided to narrow the scope of the toolkit from the initial plan above, to focus on addressing entrepreneurs, artists, and everyone working in-between business and arts. The goal is to help them use a variety of methods to widen participation in AI, enable art/AI interactions and their application to counter misinformation, and to use arts and trans-disciplinary STEAM (science, technology, engineering, arts, mathematics) approaches.

Based on recommendation 5 of the review report, which suggested that it "responds to the needs of the users and the aim of the project," three major changes were implemented:

1. The revised toolkit is now aimed at support programme participants and those who could apply for it (or similar programmes) in the future. It collates resources that are useful for businesses, artists, and combinations thereof, to address challenges of misinformation through data and AI solutions. While the overall structure of the toolkit remains the same (see Figure 1 above), we focus mainly on resources that are of most practical value to practitioners.
2. The data catalogue and other MediaFutures resources were linked into the Toolkit, improving the opportunities for interested parties to find them whether they come via the MediaFutures website or the Toolkit.
3. More content that reflected the actual experiences of participants in the support programme was added.

3 Methodology

In this section, we will explain how we developed the toolkit.

We started the toolkit development based on the expertise of the partners involved. All MediaFutures partners contributed to the toolkit, ensuring that we made use of all our combined insights. Broadly, the development of the toolkit consisted of three steps:

1. Gathering background information and basic resources from current literature, provided by all partners according to their expertise.
2. Interviews with all participants, to gain their feedback and understand their insight on and experience in the programme.
3. User testing with consortium members and participants to refine the outline, focus, and resources in the toolkit.

Step 1 was completed at the end of year 1 of the project. Key contributions of partners by topics are shown in Table 1 below:

Table 1: Key contributions by partner and topic

Human data and AI interaction	KCL	Human-centric AI
	EUT	Trustworthy AI
Legal and ethical questions	KUL	Data protection AI regulation Platform and content regulation

	KCL	Data sharing
Entrepreneurship and sustainable business models	ODI	Data innovation
	NMA LUH	Sustainable business models
Social impact and citizen participation	Zabala	Citizen engagement in innovation
	EUT	Digital democracy
	DEN	Impact assessment
Science-art interfaces and innovation	IRCAM	Artistic practices in technological innovation

Step 2 involved interviews with all participants in the first cohort of the support programme in September 2021, a total of 15 interviews with 23 participants. The interviews were led by KCL, and supported by DEN and IRCAM, with questions guided by background information provided by partners. During the interviews, a specific focus was set on collaborations between artists and businesses, as well as within teams with mixed expertise. This fed into a piece of research under Task 4.2 (Experiment support) to better understand and enable such collaborations in the future. All interviews were conducted through Microsoft Teams, recorded, and later transcribed for analysis. The interview script is provided in Annex 1.

A thematic analysis was conducted on the interview transcripts, first deductively, to identify participants' experiences and insights according to our target topics, and then inductively, to capture further insights that were not covered by the existing toolkit structure. The interviews were also shared for analysis with WP6, to support the impact assessment. A codebook of the analysis is provided in Annex 2.

The insights gained from these interviews were used to:

1. Contextualise the theoretical background developed in step 1 in the toolkit;
2. Add additional tools and resources that were used by participants to our tool collection (which will be aligned with resources in the toolkit), with examples of their use; and
3. Provide case studies highlighting specifically relevant aspects of the programme, the resources, and the topics.

Step 3 initially included workshops and discussions within the consortium and its network about the outline and goals of the toolkit, and was expanded to address review recommendation 5, to "make use of co-creation and/or participatory methodologies to address the referred end-user's needs." Steps 2 and 3 were iterative, with new interviews and user tests conducted across the entire project duration, and involving participants from all three support programme cohorts.

In addition to the interviews with participants, we discussed the toolkit and its development and gathered input from experts at IRCAM, the ODI and LUISS. So far this has had several direct implications for the development of the toolkit, including:

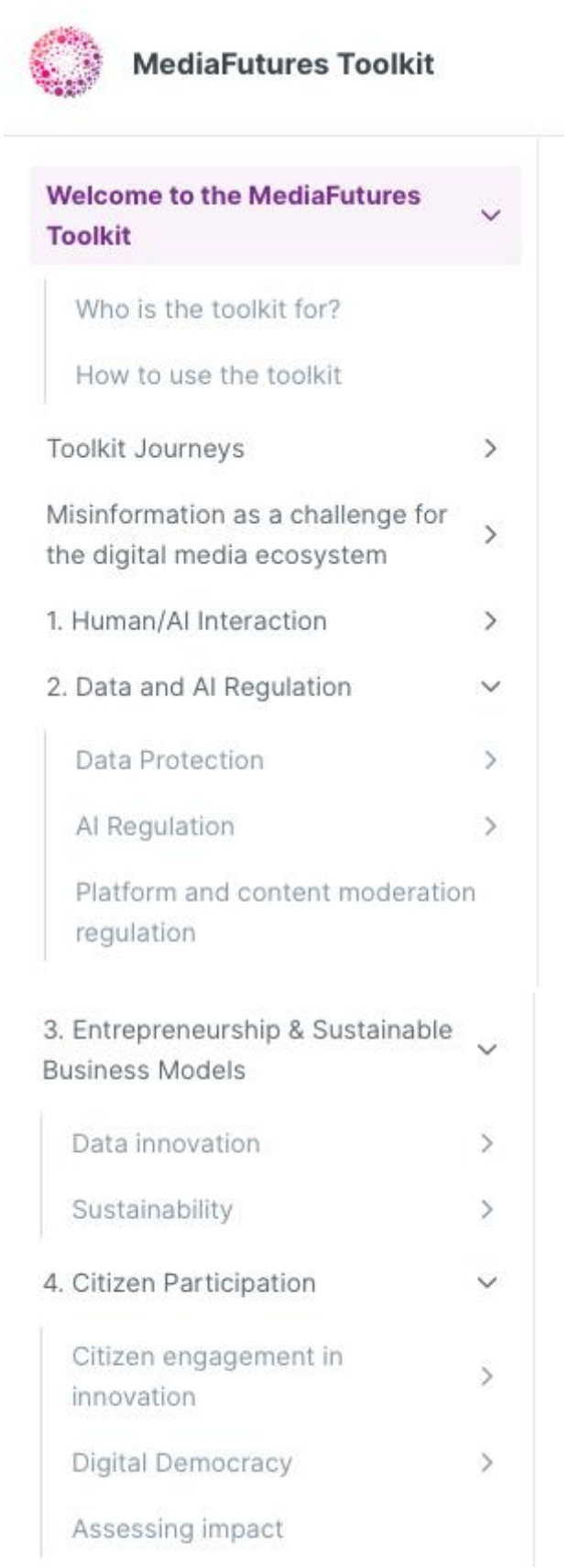
- Rethinking the toolkit as less static and more of a living document, using GitBook (https://www.gitbook.com/) to create an interactive experience for users;
- Focusing the fifth section uniquely on artists' experiences;
- Contextualising the toolkit with a more concise overview of the purpose of MediaFutures, by adding an introduction to misinformation at the very beginning;
- Deprioritising content about the MediaFutures support programme, as their functions are primarily relevant to those who run such programmes, and less so for those who apply to them.
- Interviews were conducted with the second and third cohorts in September 2022 and April 2023, respectively. These were analysed and insights were incorporated into the toolkit following the same methodology outlined above.
- Any and all comments are welcome, and can be sent to mediafuturestoolkit@gmail.com.

4 Structure and presentation

The basic structure of the toolkit is still as originally outlined (see Figure 1 above) but with modified section titles, discussing Human/AI interaction, Data and AI regulation, Entrepreneurship, Citizen participation, and Science-art interfaces. This is now enriched with an introduction to misinformation, and guidance on how to use the toolkit, highlighting: particularly relevant areas for different stakeholders; resources from our own practices and those of the participants; and case studies of the participants' experiences based on our interviews, to showcase relevant points we want to make.

Further, based on review recommendation 1 "Centralise the resources of the project in an easy to use and accessible way" we have enabled the Data Innovation Toolkit to be become a centralised access point, linking to more project resources (e.g. website resources, training resources and the data catalogue).

The table of contents is provided below. For comparison, the previous table of contents is available in D4.1


MediaFutures Toolkit
Welcome to the MediaFutures Toolkit
Who is the toolkit for?
How to use the toolkit
Toolkit Journeys
Misinformation as a challenge for the digital media ecosystem
1. Human/AI Interaction
2. Data and AI Regulation
Data Protection
AI Regulation
Platform and content moderation regulation
3. Entrepreneurship & Sustainable Business Models
Data innovation
Sustainability
4. Citizen Participation
Citizen engagement in innovation
Digital Democracy
Assessing impact

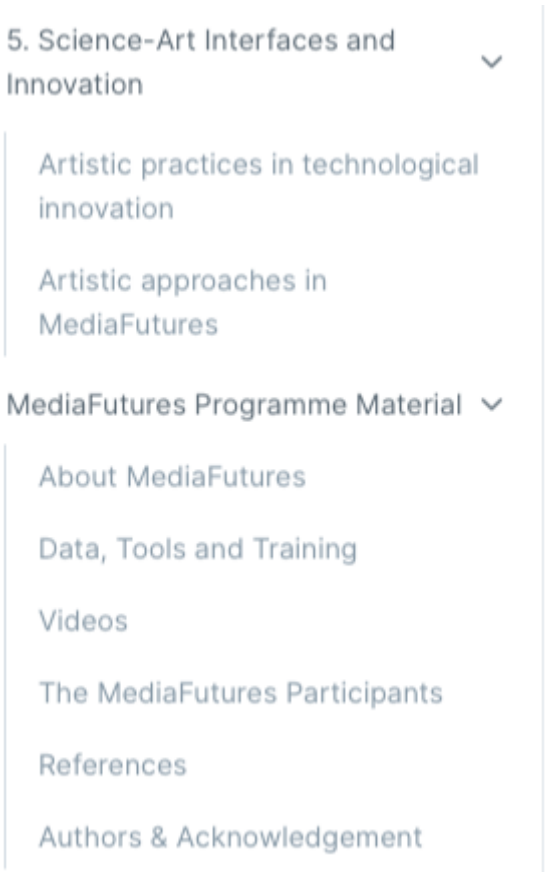


Figure 2: Content navigation of the Data Innovation Toolkit

The toolkit is an online, interactive resource, hosted on GitBook. It is accessible at https://mediafutures.gitbook.io/media-futures-toolkit/.

Creating the toolkit on GitBook provides several advantages:

- The platform allows us to create an **interactive experience** for users, where we can tell a linear story, but users can engage with the content of the toolkit in any order of preference, or skip directly to the resource collections they need.
- The toolkit can be easily **integrated into MediaFutures**' **web presence**. iaFutures website.
- The platform allows us to **continuously develop content**, and quickly adapt, add, move, or remove it, while preventing significant overheads for web development. Previous toolkits we used as examples, such as the ACTION citizen science toolkit against pollution (https://actionproject.eu/toolkit/), were built on WordPress, which created cumbersome processes to revise and update content.
- GitBook also **enables readers to submit suggestions** directly on the platform, which we can then consider for future changes.

This has allowed us to implement changes quickly, not only the addition of new content but also restructuring the content to allow more subpages to be visible from any point in the Toolkit to improve navigation.

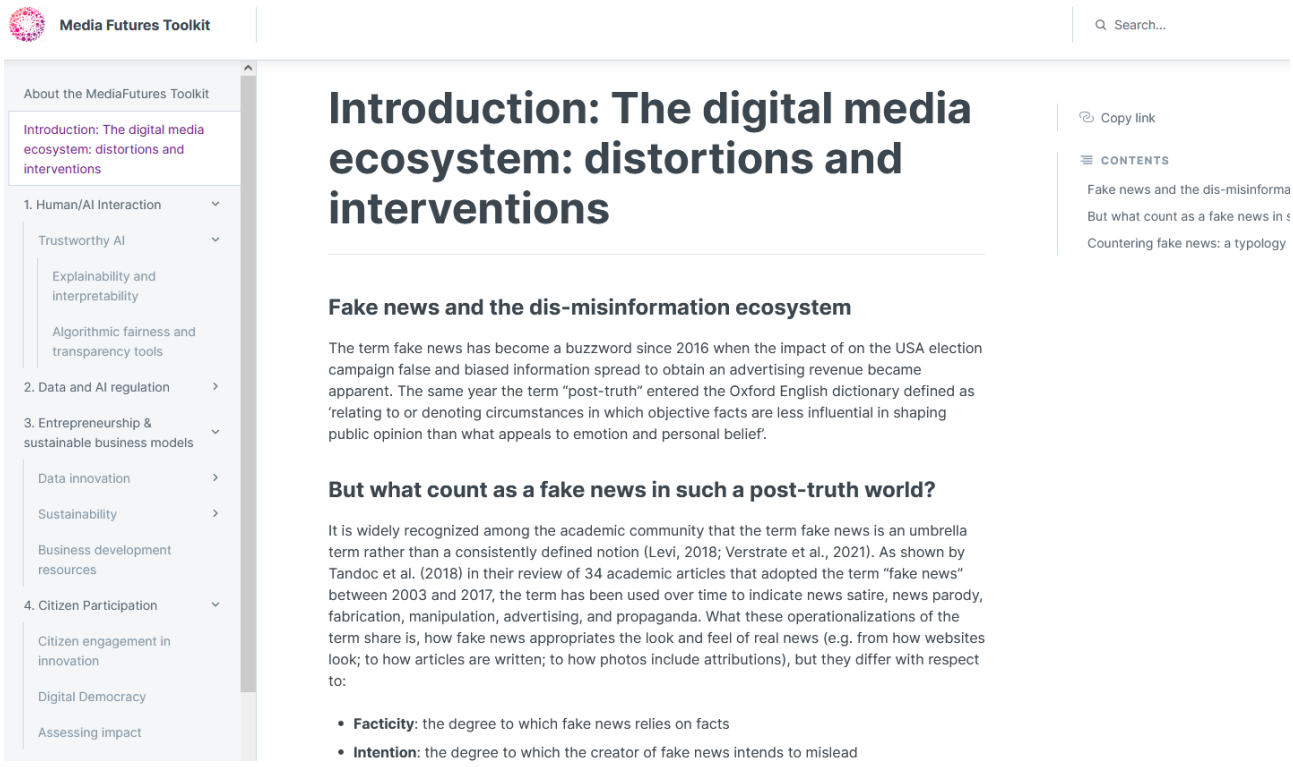


Figure 3: Screenshot of the toolkit v1 on GitBook

Figure 4: Screenshot of the toolkit v2 on GitBook showing the increased focus on misinformation, the improved navigation and less dense page content

5 User testing

User testing, and related amendments and changes, constituted the core of our activities on the Data Innovation Toolkit once it was launched in June 2022.

A group workshop was held during the first in-person meeting of the consortium and Cohort 2 in Paris in October 2022. The aim of this workshop was to a) 'Sense check' the content with actual users; b) identify content gaps and c) understand how we could improve the user journey. .

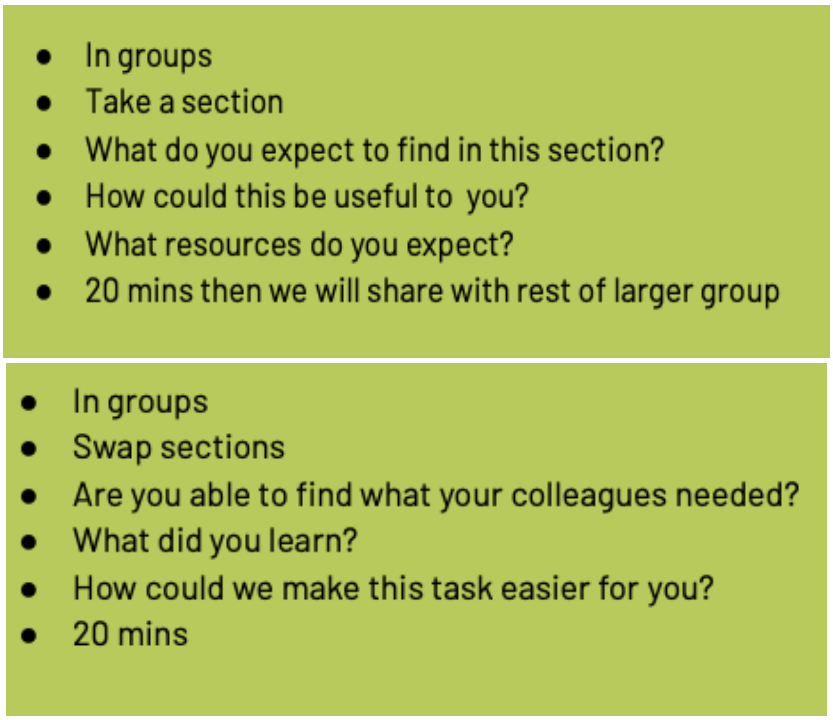


Figure 5: Sample activities from the first Toolkit user feedback workshop in Paris, 2022

The full workshop presentation and activities can be found here. The output of this workshop was a series of content improvements to be implemented by partners, which was completed by February 2023.

- The Toolkit was introduced to Cohort 3 at the first in-person meeting in Barcelona in February 2023. This was the first cohort to be able to engage with the Toolkit from the beginning of their involvement with the support programme, and to therefore be able to integrate it into their support along with the training and other resources.

- A group workshop was held during the midpoint in-person meeting of Cohort 3 in Rome in April 2023. We asked participants to describe their MediaFutures support journey and how the Toolkit reflected that support. This sought to address the review recommendation of a more dynamic path through the content, by reflecting actual user journeys. In this way, Toolkit users can identify what content they wish to access based on real questions and issues that other artists or start-ups experienced, and what content assisted them to resolve those issues. The full presentation and workshop activities can be found here. This resulted in the development of 5 user journeys across the content, for start-ups, artist and start-up collaborations and artists.

Figure 6: Sample user journey with possible questions that can be answered by the Toolkit presented to Cohort 3 participants in Rome, April 2023

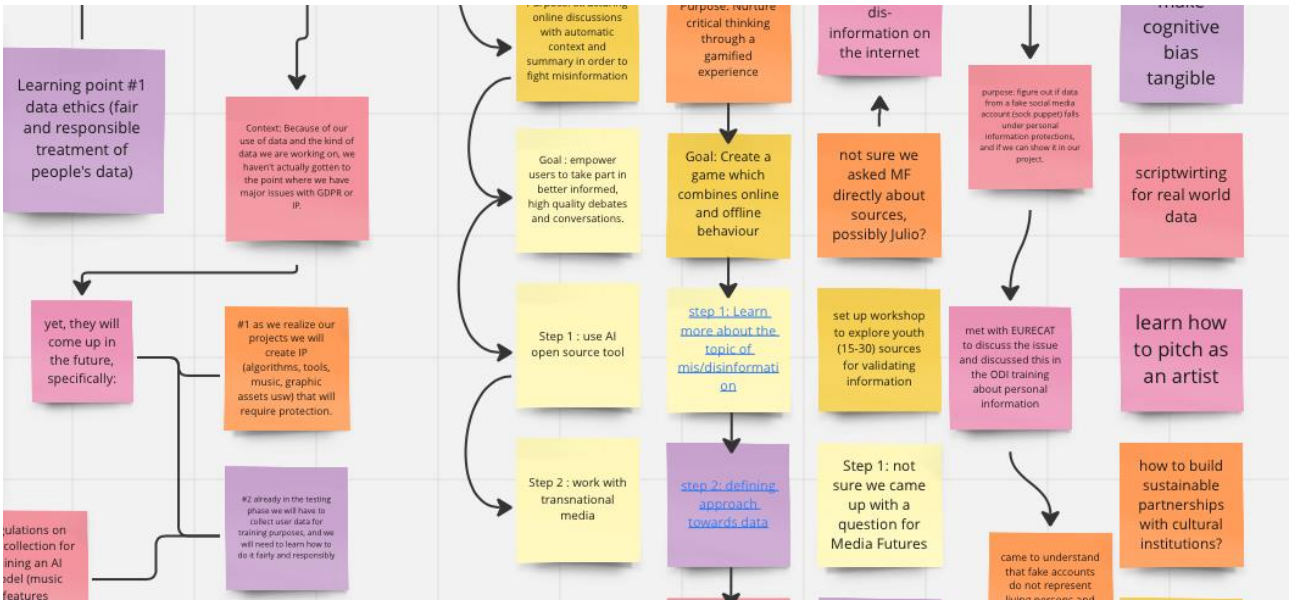


Figure 7: User journeys through the MediaFutures programme gathered for mapping onto the Data Innovation Toolkit

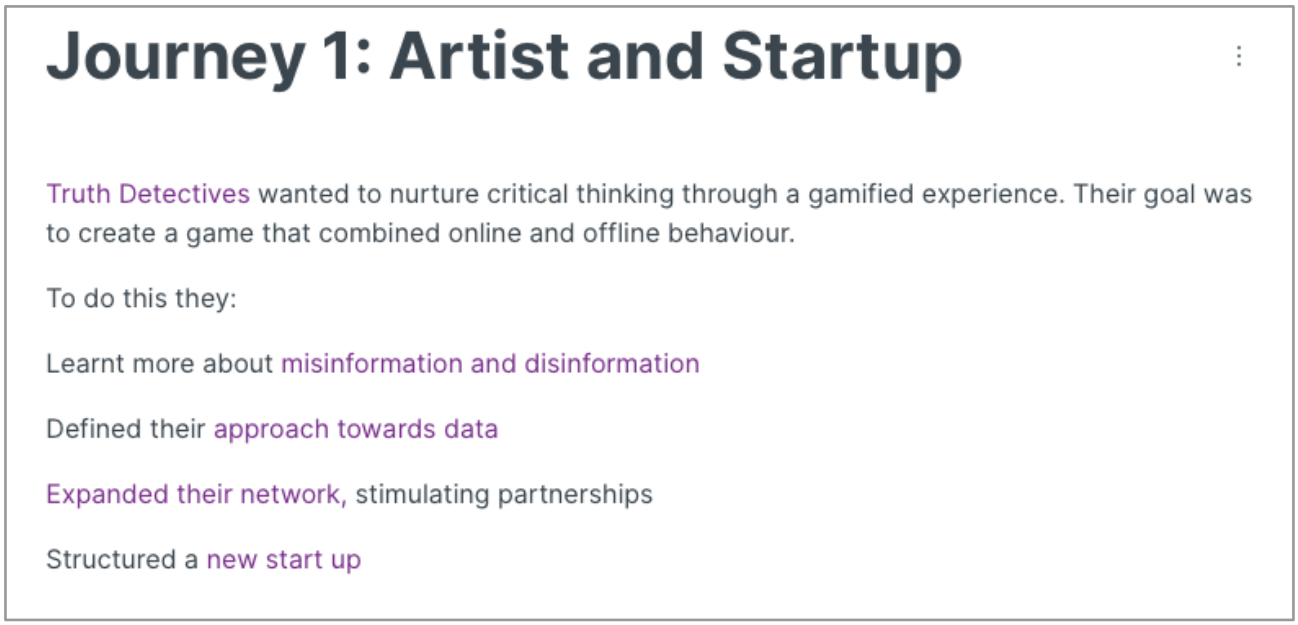


Figure 8: User journey through the programme mapped onto Data Innovation Toolkit content

- A further group workshop was held with Cohort 3 participants in Hamburg in June 2023. A key valued aspect of the MediaFutures support programme has been the opportunity to share challenges with other participants in the cohort. In this workshop, we created short case studies of particular challenges and integrated these into the Toolkit to reflect genuine experience of the process, and to provide colour and a sense of a shared experience for future users of the Toolkit.

As a result of this extensive user testing and engagement we have also improved the navigation, reduced the length of pages and extended the content on Data and AI regulation.

6 Conclusions

The MediaFutures toolkit has been developed by experts from across the consortium, supplemented with insights from support programme participants, and refined through continuous feedback mechanisms. It is a resource that will help future applicants of programmes like MediaFutures to succeed in developing responsible AI solutions in the media value chain.

7 Annex

7.1 Annex 1 - Interview script

Numbered questions were posed to all participants, lettered questions were only posed to participants of the specified tracks. Blue questions were core to the script, with black questions used to explore further details as appropriate, depending on participants' responses.

1. Can you give us a brief overview of what you set out to do in the MediaFutures support programme (MediaFutures for short), and what you ended up doing?

2. What were your expectations going into MediaFutures?
    - What did you hope to learn?

- What did you think were going to be the biggest challenges?

3. What was your actual experience of participating in MediaFutures?
    - What challenges did you face during your work in MediaFutures?

4. What role did citizen/user engagement play in your project?
    - Did you support interaction among citizens/users? How would you describe that interaction and its effect on participants?
    - Did you change or improve your citizen engagement practices as a result of MediaFutures, for example in terms of ethics?

5. How relevant was interdisciplinarity and/or an intersectoral approach for your project? How did that surface?

(SmA only)

a) What do you think is the value of start-up/artist collaborations?
b) What was it like to work with artists/start-ups on this project?
c) Will you continue working with this artist/start-up after MediaFutures?
d) How did the physical distance impact the co-creation process?
e) What would you recommend to others attempting such collaborations?

(Artists only)

a) Have you consulted or collaborated with scientists or technologists (internal or external) to carry out the project?
    - What were the fields of expertise that you needed to carry out the project?
    - How did you establish that collaboration? Has MediaFutures helped you to do that? Why not?
b) What are the main challenges and opportunities of scientist/technologist and artist collaboration?
c) What are the crucial elements of a successful artist / scientist / technologist partnership?

6. Do you think that MediaFutures had an impact on your visibility and recognition in your sector? How?
    - Did you observe an increase in your followers and/or interactions on social media?

7. How has participating in MediaFutures changed your use of data?
- Did you use new or different data sources? Which?
    - Did you change your data management practices? How?
- What were your biggest challenges around use of data?

8. How many outcomes of your project are or will be covered by IPR? In what model?

9. What have you learned during MediaFutures?
    - Have you changed the way you work?
    - What is your most important takeaway?

10. What do you wish you had known before starting in MediaFutures?

7.2 Annex 2 - Codebook

Code Name	Description	Files	Refe-rences
Programme	Summary code for comments referring to the MediaFutures support programme and the consortium delivering it.		
Consortium Feedback	Comments from participants that are directly relevant to the consortium for future iterations of the support programme.	8	29
Direct Support	Comments on direct support provided by consortium partners, through mentoring or supervision.	9	20
Expectations	Reflections on participants' expectations of the support programme and to what degree they were met.	8	14
Indirect Support - Training	Comments on indirect support provided by consortium partners, through general guidance and training sessions.	15	35
Learning	Skills participants acquired (or had to acquire) during the programme.	13	32
Network	Comments on participants' experiences and expectations of networking during the support programme.	11	27
Pacing	Comments on the timing and pacing of the support programmes and the activities within it.	7	12
Programme Feedback	Participants' feedback on the MediaFutures support programme itself.	12	35
Recognition Dissemination	Comments referring to participants' expectations and experience of the support programmes' interaction with the public recognition and dissemination of their work.	13	33
Project	Summary code for comments referring to the project delivered within the support programme and the various aspects relating to it.		
Citizens (Users or Audience)	The role of citizens for projects, and how they (attempted to) engage with them.	13	38

Goals	Main goals participants wanted to achieve during the programme.	14	29
Artwork	Descriptions of artworks produced in MediaFutures.	9	19
Business model	Descriptions of the business models by MediaFutures participants. ("What is the business model?")	6	13
Misinformation		10	15
Sustainability	Measures projects take to make their work sustainable, and plans for their future development.	12	25
Implementation	Summary code for comments referring to the implementation of projects during the support programme.		
Challenges	Specific challenges experienced in the development and implementation of the projects.	9	18
Changes	Changes in the topic or focus of the project during the support programme.	4	7
Data	Descriptions of what data was used in the projects, how it was used, and what considerations participants made in the process.		
Processing	How participants processed data.	10	25
Types of data	Descriptions of the types of data used by participants.	16	34
Ethical considerations	Projects' ethical considerations around data collection and use, as well as potential (intended and unintended) results.	7	19
Legal	Legal concerns or challenges the projects encountered, especially around data use, privacy, and copyright/(intellectual)property of others.	6	10
Ownership	Discussion of ownership and licensing models for project outcomes, including open course/data, copyright etc.	12	24
Time	Reflections on the time allocated to the project, or specific tasks within it, and the timing and pacing of projects in the programme.	12	41
Tools	Specific tools used by participants during the implementation of their project.	12	15

Teams	Summary code for comments referring to the teams who delivered the project.		
Artistic contribution	Specific contributions of artists in art/tech collaborations.	8	21
Collaboration	Specific references to how teams worked together.	5	10
Communication	Experiences and challenges in collaborations within teams, and with external experts.	9	30
Diversity	References to different types of diversity within the project teams.	3	4
External expertise	Expertise participants did not have access to internally.	7	22
Internal expertise	Expertise participants did have access to internally.	10	24
Remote work	Experiences with and effects (both positive and negative) of working remotely during the pandemic.	7	17

8 More Information about this Document

Project acronym	MediaFutures
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v1.4	29/09/2023	Alexandra Garatzogianni (LUH), Gerrit Rosam (LUH), Michael Fribus (LUH)
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