ATARCA

Project deliverable 3.3 (D3.3)

Report on communication, dissemination and exploitation activities

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ATARCA

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Deliverable responsible	Aalto University
Authors (in alphabetical order)	Ulriikka Järvihaavisto Johannes Mikkonen Martin Moravek Markku Nousiainen Claire Shaw Niina Simonen Joel Wolff
Dissemination Level	Public

Contributors: Aalto University

Demos Research Institute

Streamr Network

Associació Novact

Qbit Artifacts

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1. Introduction

This report focuses on all communication, dissemination and exploitation activities carried out as part of ATARCA. As a highly innovative project, both in terms of theoretical and technological innovation, communication was particularly important. Anti-rivalry is a new concept for many, and the messaging around ATARCA would set the stage for its acceptance by policy makers, academics, developers and students.

The communications, dissemination and exploitation activities of ATARCA were initially outlined in the Plan for exploitation, dissemination and communication (Deliverable 3.1., hereafter referred to as the "communications plan"). This plan was revisited and updated in June 2022. Not all activities followed the communications plan exactly, however all activities undertaken by ATARCA are listed in this deliverable.

1.1 Objectives & scope of deliverable

This deliverable provides an overview of all activities related to the communication, dissemination and exploitation of ATARCA results. The deliverable summarizes the activities and evaluates whether they were effective in meeting the objectives and goals of the project, particularly in comparison to key performance indicators (KPIs) established in the communications plan.

Chapter 2 of the report outlines activities related to internal communication. Chapter 3 analyzes the performance of the main external communication and dissemination tools, such as the website, social media, presentations, and the ATARCA blog. Chapter 4 reviews the innovation exploitation activities undertaken by the consortium, and Chapter 5 provides a reflection on highlights and lessons learned.

2. Internal communication

Internal communication has been a strength of ATARCA, with clear and consistent discussion between consortium partners. Several different tools were used to maintain communication on a daily, weekly, and monthly basis, which were supported by two in person consortium meetings in June 2022 and November 2022.

The main tools used included:

- Slack: A digital messaging platform, where discussions can be separated into different channels. This was the central tool for daily in-project communication, where partners could share updates on tasks and project activities, provide feedback, and coordinate project activities.
- Weekly project reviews: A weekly video conference was led by the project coordinator and included representatives from each consortium partner. In these meetings, we shared updates on on-going and upcoming tasks related to the project.
- Sprints: The main organizational method for developing the project was the “sprint”. Sprints refer to short, dedicated periods of time in which a certain set of tasks for a project are assigned to be completed. The sprints were used to complete tasks such as development and rollout of the apps.
- Project mailing lists: Several mailing lists were established, one for reaching all the project members; others for the advisory board, general assembly, communication representatives, and one for each project partner. These lists were used, for example, in sharing official project communication such as submitting deliverables for review to consortium partners.
- Communication & Impact task force: This task force was made up of at least one member from each consortium partner. The task force met monthly to monitor and coordinate communication and dissemination activities.

3.1 Advisory board

The policy advisory board was established to help ATARCA meet its societal goals in the most efficient and feasible way possible. The board was made up of external experts, including:

- Rainer Kattel (Deputy Director and Professor of Innovation and Public Governance at the UCL Institute for Innovation and Public Purpose (IIPP));

- Primavera de Filippi (researcher at the National Center of Scientific Research (CNRS) in Paris, a faculty associate at the Berkman Klein Center for Internet & Society at Harvard University, and a Visiting Fellow at the Robert Schuman Centre for Advanced Studies at the European University Institute);
- Katja Bego (Principal Researcher and data scientist in Nesta's technology futures and explorations team;
- Matthew Schutte (Philosophical, Strategic and Administrative Co-Conspirator at The Bateson Institute); and
- Michael Zargham (founder and CEO of Blockscience, Affiliated Researcher Wienna Research Institute for Cryptoeconomics)

The objectives of the advisory board were to i) to support ATARCA to meet its goals in the best possible way; ii) to create direct, open, deliberative and guiding connection between the project researchers and board members; and iii) to support the policy impact work, particularly in terms of identifying the right leverages for policy impact.

The advisory board met four times over the lifetime of the project. In these meetings, ATARCA project partners presented the current status of the use cases and sought advice on how to proceed with project impact activities. More information on the advisory board and advisory board meetings can be found in Deliverable 3.2 (Policy recommendations and roadmap for regenerative digital economy of the EU).

3. External dissemination & communication

3.1 Key targets & communication metrics

In ATARCA's communications plan, several key performance indicators were identified as a way to measure and gauge the spread and impact of ATARCA's messaging efforts. The KPIs and their results are listed in Table 3.1 below. Each of these metrics is discussed further in depth in the remainder of this chapter.

Table 3.1. Communication and dissemination KPIs

Activity	Target	Result	Comment
Project website	-	Complete	Available at atarca.eu
Project visual identity	-	Complete	Uniform visual identity present across website, social media, and presentations/ workshops
Articles in trade press or magazines	≥5 articles with exposure for the project	13	
Scientific publications in FT-50 or ABS-4 journals	≥3 FT/50 or ABS4 publications	1 ABS4 publication	4 additional scientific articles (ABS-AJG 2, ABS-AJG 1, and JUFO 1) have been published under ATARCA. Project results were not ready to be published in articles until the final quarter of the project. Several articles have been submitted to journals ranked ABS-AJG 3, JUFO 3, and JUFO 1.
Blog posts	≥10	21	Blogs are all accessible at atarca.eu/blog, with some cross posted to medium.com
Hands-on workshops and sessions in final seminar	≥100 developers participating	109	The number includes participants in hands-on sessions at final seminar and unique views of recordings of workshops
Anti-rivalry MOOC	≥500 students completing the course	191	Reaching 500 students in the short time between course release and the end of the project proved unfeasible. 339 students have begun the courses.
Disseminating project messages in outside events	≥3 conferences and events attended and presented at	21	

Policy recommendations	Distributed to ≥200 policymakers	~250	Distributed through email.
Communication with policy makers, researchers and civic society	≥5 dialogue sessions hosted, including observatories	10	Four policy observatory sessions and six policy dialogues
Press releases	≥2	4	
Multimedia presentation materials (e.g., podcasts)	≥4 published	4	1 podcast and 36 videos
Final seminar: policy implications and impact of ATARCA	≥50 participants in the final seminar	127	Participants in the academic, policy and pilot results sessions of ATARCA Seminar Week
Website engagement	≥5000 annual visits to website	19629	From February 2022 to February 2023. This is up from ~9000 the year before.
Newsletter engagement	≥30 monthly	788	This includes subscribers to the email newsletter, LinkedIn newsletter, and social media accounts.
Social media engagement	≥1 weekly	~2.7 posts per week	
Social media followers	≥300 followers combined	573	Followers on Twitter and LinkedIn

3.2 Project visual identity

A visual identity for ATARCA was designed in partnership with project participants and a graphic designer, including a logo, color pallet, font family, and visual elements. The colors and visual elements were chosen to reflect the technologically-based innovation and research central to the project goals.

Image 3.1. ATARCA visual identity visible in poster at Green Shops workshop.

In order to ensure that a clear visual connection is present across all ATARCA materials, a brief visual identity manual was developed for use by all project partners. Additionally, templates were created for PowerPoint presentations and reports using this visual identity and have been utilized when presenting and sharing updates, reports and presentations on ATARCA events and milestones. An example of this is shown in Image 3.1.

The ATARCA visual identity is most visible on the website and in social media posts. It also appeared in physical materials, such as posters present at ATARCA related workshops. Appendix A includes examples of the visual identity, such as the presentation template.

3.3 Digital platforms & multimedia communication

3.3.1 Project Website

The ATARCA website contains all relevant information on the project, including the objectives, deliverables and reports, and updates on project outputs. The website was established in early 2021 and is available at https://atarca.eu/. After the project's end, the site will not be updated, however regular technical maintenance (e.g., security updates) will be provided as needed.

The webpage includes approximately 20 main pages, including the welcome page, project objectives, information on consortium partners and use cases, contact details, blogs and news, academic publications, and project deliverables. 32 posts have been made to the website, including reflections, informative blogs, and project-related updates. Finally, the website also hosts two of the three online courses created as part of ATARCA. The third course (Sustainable Consumption) is hosted on a different platform but is accessible from the ATARCA homepage.

In the first year of the project (Feb 2021-Feb 2022), the website received approximately 2400 unique visitors, with a peak in February when the project was first announced as receiving funding from H2020. Overall, the site received approximately 9000 visits during this time.

In the second year of the project (Feb 2022-Feb 2023) the website received 2900 unique visitors, with a peak in February as the Final Seminar Week was announced. The website received 19,629 visits during this time period. Visitors to the website are mainly from Finland, the United States, Spain, Germany, and the Netherlands.

3.3.2 Social media

ATARCA's most successful communication tool has been social media, namely the LinkedIn and Twitter accounts. Both accounts were coordinated by Aalto, with content contributions provided by all partners. The accounts were used to publish news and updates on project developments, to promote blog posts, events, and event materials, but also to network with other relevant projects and stakeholders.

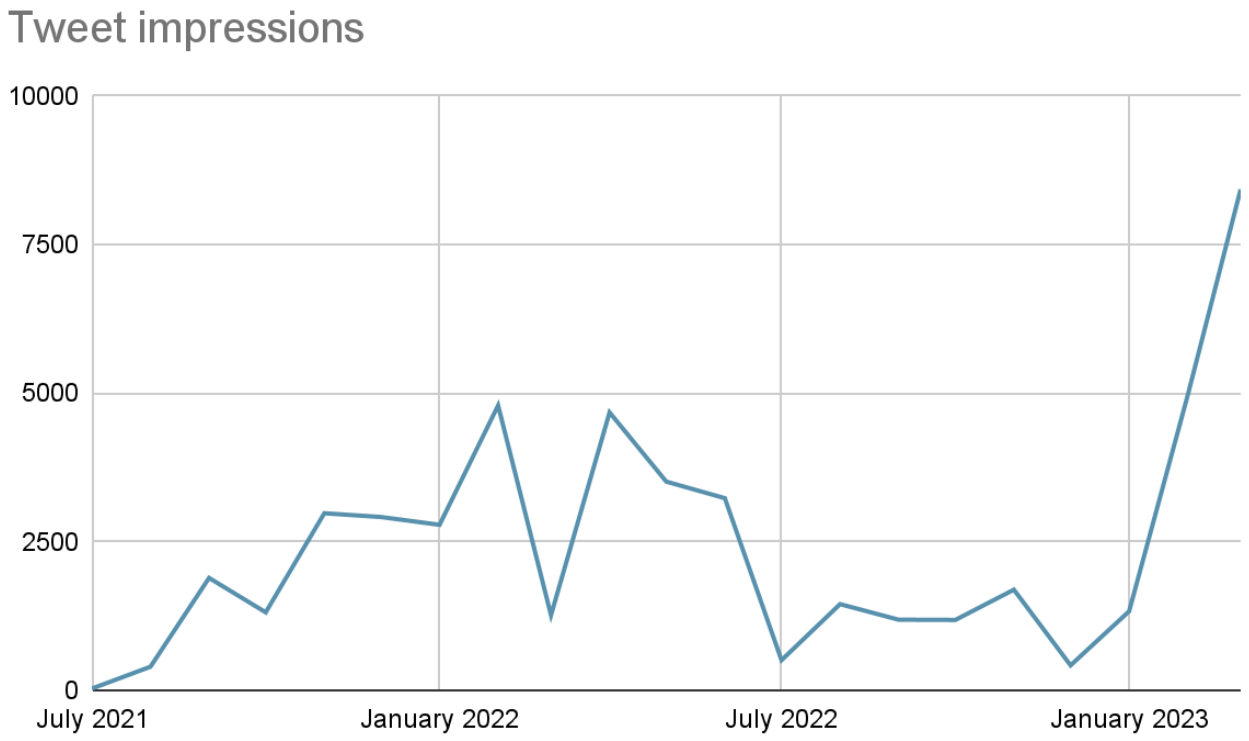


Image 3.2. Graph of Tweet impressions from July 2021 to March 2023

The ATARCA twitter (@ATARCA_EU) launched in July 2021. Twitter engagement grew over the lifetime of the project, ending with 139 followers. Twitter impressions, the number of times a tweet has been viewed, synced with significant updates in the ATARCA project, such as in February 2022 with the public introduction of shareable non-fungible tokens (sNFT) and February 2023 as preparations for the final seminar week began. Lulls coincided with breaks in the academic year, such as around the summer and winter holidays, although content continued to be posted during these times.

As of March 14, 2023, the ATARCA twitter account has posted 237 tweets, averaging 2.7 tweets per week since the account launched.

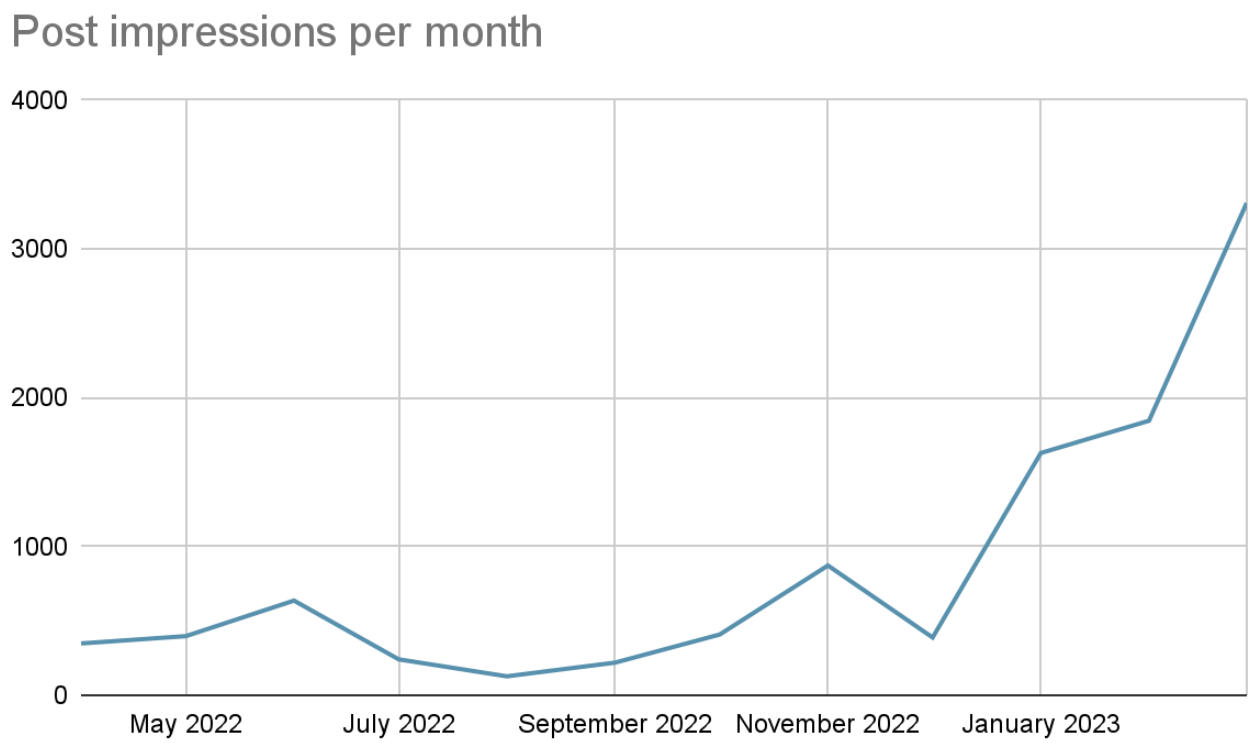


Image 3.3. Graph of organic post impressions on LinkedIn from March 2022 to March 2023.

The ATARCA LinkedIn page (ATARCA EU) garnered more attention, reaching 434 followers. From March 2022 to March 2023[1], the ATARCA LinkedIn page received 633 page views. Visitors to the page were mainly from Finland, India, and Spain. The largest increase in post impressions coincide with preparations for the Final Seminar and the launch of the ATARCA LinkedIn Newsletter.

The top five LinkedIn posts from ATARCA EU with the highest number of impressions are summarized in Table 3.2.

[1] LinkedIn page analytics are only available for the previous 365 days.

Table 3.2. Excerpts of top five LinkedIn posts with the highest engagement.

Post excerpts	Date	Number of Impressions
"💡 Learn about anti-rivalry and earn one of the world's first shareable NFTs! Learn what anti-rivalry means for business and community management, and receive an anti-rival expert sNFT straight to your wallet!..."	28/03/2023	25682
"Anti-rivalry allows us to rethink how we value and exchange digital goods. Join: An Introduction to Anti-rivalry, a new MOOC launched by ATARCA EU. It's a free and open access..."	27/01/2023	1187
"Last week, NOVACT, International Institute for Nonviolent Action and RecBarcelona presented Comerç Verd Connecta, a new tool to promote coordination, generate bonds and..."	20/06/2022	400
"Digitalisation and data have become the driving forces of our economic system with fundamental implications for human interaction and societal power structures. Yet technological development has created novelties which fit poorly together with institutional structures and governance architecture created in the previous era. Our current economic structures and institutions therefore need a fundamental reform to fully leverage digital, often anti-rival resources. We explored this tension in our final ATARCA Policy Observatory earlier this month."	20/03/2023	353
"Happy Birthday ATARCA! Our project officially kicked off one year ago today. We've been working to understand how #antirivalry is relevant to the #dataeconomy and beyond! Stick around to..."	10/04/2022	314

Social media posts were also often shared by consortium partners, including retweets and tagging ATARCA accounts. This allowed social media following to spread beyond accounts that followed the ATARCA pages to a much larger audience.

In the beginning of 2023, the use case results were ready for public release. Because of this, more content was available for social media posts and greater effort was put into communicating ATARCA messaging. We began to create more content for LinkedIn and Twitter and actively pursued more followers. During this time, we experimented with different content types and messaging. This proved successful, as growth has been steady since then. LinkedIn views have grown 78% from January to March 2023, showing a growing interest in the content. The number of organic impressions of the LinkedIn posts grew by 317% from January to March 2023 (1625 in January to 6779 in March). Sponsored content in March experienced even greater growth, reaching 32,352 impressions. LinkedIn followers have grown by 37% in the same period. This indicates the push in content sharing pilot results has driven users to the ATARCA page and to begin following. A similar increase in impressions and engagement has been seen on the ATARCA Twitter, with a rise in impressions from 1,300 in January to 8,800 in March.

3.3.3 Multimedia project presentations

Three short videos and one podcast were created to promote the dissemination of project objectives and results. Additionally, an ATARCA YouTube channel was created to centralize access to these videos and to upload other relevant multimedia materials, such as video versions of the Introduction to Anti-rivalry course and recordings of the final seminar sessions. These outputs are presented in Table 3.3 and include the number of views or listens. Views and listens are as of March 31, 2023. All videos can be found on the ATARCA YouTube channel, accessible here: https://www.youtube.com/@atarcaeu.

The video featuring the Food Futures case was also a finalist in a video contest showcasing how to better communicate ideas of the commons to a wider audience. This contest was run as part of the International Association for the Study of the Commons, World Commons Week 2022. More information on the contest can be found here: https://wcw2022.iasc-commons.org/teaching-video-contest/.

Additionally, a podcast was published with Streamr, a consortium partner, introducing the ATARCA project and how blockchain technologies can be used to create new types of businesses based on the anti-rival nature of digital resources. This podcast was published on YouTube, Spreaker (a podcast platform), Apple Podcasts, and Spotify.

The video can be accessed on YouTube here: https://www.youtube.com/watch?v=khk2dp_lk_I.

Table 3.3. Multimedia outputs of ATARCA.

Material	Views and Listens
ATARCA Pilot case: Barcelona Green Shops	**106** [2]
Food Futures Video: Learning by Doing, Solving the Tragedy of the Commons	**422** [3]
Creating anti-rival tokens for collaboration and sharing in ATARCA - Podcast	**240** [4]
ATARCA Pilot Case: Streamr Community	**16**

3.4 Periodicals

3.4.1 Newsletters

A quarterly email-newsletter was produced to provide an easy-to-read update on ATARCA publications, events, and the general progress of the project, as well as links to relevant and interesting articles and videos. The newsletter was initially designed and distributed using the Mailchimp platform. Overall, 8 ATARCA newsletters were produced. All eight ATARCA newsletters are accessible on the ATARCA website, under the heading “News & Blogs”. Each of these newsletters has also been shared on social media.

As it seemed increasingly challenging to attract audience members to subscribe to traditional newsletters (due to more active junk-mail filters and general avoidance of email newsletters), we chose to redirect our newsletter actions to social media. After this decision, all newsletter content was shared to all social media followers after initial distribution in email. Using these metrics, ATARCA newsletter material reached 788 readers by the end of the project, averaging 32.8 new subscribers a month.

[2] 19 views on YouTube and 87 views in the Introduction to Anti-rivalry MOOC course

[3] 26 views on the ATARCA YouTube, 212 views on the University of Helsinki YouTube channel, 97 views on the IASC YouTube channel, and 87 views in the Introduction to Anti-rivalry MOOC course.

[4] 157 views on YouTube and 83 listens on podcast platforms (the website, Spotify, Apple Podcasts, and Spreakr)

Due to the success with social media, we also began publishing the newsletters on LinkedIn, seeing an immediate increase in the number of subscribers and engagement. When created, the LinkedIn newsletter immediately gained 80 subscribers (now at 115). The number of subscribers to the traditional newsletter formats increased from 19 to 215, from the initial publication in October 2021 to the end of March 2023.

While the newsletter did not reach the initial intended audience of 30+ new subscribers per month, it has shown high success with those who have subscribed. The newsletter has a high open percentage, averaging 52.75% of readers opening the newsletter. The statistics on open percentage of newsletters is demonstrated in Table 3.4 below.

Table 3.4. Statistics on open percentage of ATARCA newsletters on the MailChimp platform.

Issue	Open percentage on MailChimp
October 2021	42.1%
December 2021	64.7%
March 2022	73.5%
April 2022 (special edition)	55.6%
September 2022	53.8%
December 2022	41.6%
February 2023	43%
March 2023	47.3%

Additionally, several newsletters were published in external newsletters, for example within the Barcelona pilot's Green Shops Connecta app and by blockchain token communities. These are included in the Table 3.5 below. The Green Shop newsletters included a video, relevant information about the Green Shops and Connecta, and an announcement of a token launch. The posts related to the blockchain token included updates on the shareable NFT developed as part of ATARCA.

Table 3.5. External newsletters with ATARCA content.

Newsletter content	Date	Publisher	Link
Week in Ethereum News, April 23, 2022	April 2022	Week In Ethereum News	https://weekinethereum.substack.com/p/week-in-ethereum-news-april-23-2022
Ethereum request for comment on sNFT 2	March 2022	Ethereum Magicians	https://ethereum-magicians.org/t/new-nft-concept-shareable-nfts/8681
Green Shops Rezero Newsletter - 1	October 2022	NOVACT	NEWSLETTER1.pdf
Green Shops Rezero Newsletter - 2	November 2022	NOVACT	NEWSLETTER2.pdf
Green Shops Rezero Newsletter - 3	December 2022	NOVACT	NEWSLETTER3.pdf
Connecta video	December 2022	NOVACT	Connecta_30s_CAT_FINAL.mp4

3.4.2 ATARCA Blog

ATARCA has published 21 blog posts on the website, covering topics related to policy, the specific use cases, token design, updates on project happenings, and the societal and educational impacts of anti-rivalry. Three of these blogs have been cross-posted to the blog writer's own account on Medium, a popular blogging platform in the field of crypto-economics.

These blogs were regularly advertised through the ATARCA newsletter as well as on social media. All blogs can be found at https://atarca.eu/blog/.

3.5 External media

3.5.1 Press releases & articles in trade press

Four press releases have been published by ATARCA consortium partners, three in English published through the Aalto University press platform, and one in Catalan by Novact with Rezero, a partnering foundation in the Green Shops pilot case. These are listed in Table 3.6.The content of these press releases was distributed and written about in publications from Spain, the United Kingdom, India and the Netherlands, as well as global digital publishers. ATARCA press releases were featured in newspapers and journals in the fields of science and technology, business, health & nutrition, education, and general news.

Table 3.6. Press releases from ATARCA and resulting trade press publications.

Publication date	Press release or activity	Trade press reached
May 2022	"Blockchains uphold data platform cooperation"	https://techxplore.com/news/2022-05-blockchains-platform-cooperation.html https://news8plus.com/blockchains-uphold-data-platform-cooperation/
June 2022	"Presenting Comerç Verd Connecta, the tool created by ATARCA to promote local and sustainable consumption"	https://www.diaridegirona.cat/economia/2022/06/16/mes-70-comercos-gironins-obtenen-67345650.html https://www.pimec.org/ca/institucio/sala-premsa/notes-premsa/mes-700-comercos-catalunya-estan-certificats-rezero-garantir https://www.lavanguardia.com/vida/20220616/8345227/mas-700-comercios-cataluna-certificados-verdes.html https://www.residuosprofesional.com/comercios-certifican-oferta-sin-residuos/

August 2022	"New technologies can help people make sustainable dietary decisions"	https://innovationorigins.com/en/selected/blockchain-based-app-provides-information-about-food-impact/ https://foodmatterslive.com/article/aalto-university-blockchain-app-sustainable-food-choices/ https://www.foodingredientsfirst.com/news/finnish-researchers-trial-blockchain-backed-app-that-details-information-about-food-impacts.html https://medicalxpress.com/news/2022-08-technologies-people-sustainable-dietary-decisions.html https://indiaeducationdiary.in/aalto-university-new-technologies-can-help-people-make-sustainable-dietary-decisions/
December 2022	"Learning by doing: Solving the Tragedy of the Commons one Meal at a time"	https://www.academicgates.com/news/story/learning-by-doing-solving-the-tragedy-of-the-commons-one-meal-at-a-time/16245

Additionally, one trade press publication was published as the result of an interview with the ATARCA PI, rather than a press release. This publication was released in March 2023 and included a discussion on the importance of an ecosystem perspective, which is central to the approach taken in ATARCA. The article is available at the following link: https://www.aaltoee.fi/en/aalto-leaders-insight/2023/ecosystems-serve-as-a-source-of-life-for-the-cultural-sector

In total, this has resulted in 13 publications, 12 as the result of press releases, in trade press.

3.6 Scientific publications

Although the project only covered a two-year span, ATARCA researchers have made a significant number of publications in that time. The articles have been submitted to journals covering a variety of themes, introducing anti-rival topics to researchers in the fields of operations, business, economics, education, and sustainability.

All publications are open access and available for download. They can also be accessed from the ATARCA website, under the heading “Publications”. The journals include their rankings by the Chartered Association of Business Schools Academic Journal Guide[5] or, when not available, by JUFO, the Finnish Publication Forum[6]. Table 3.7 summarizes the published papers, including the journal ranking, open-access status, and the article’s connection to ATARCA.

[5] In the ABS-AJG system, a 4* is considered a Journal of Distinction, a 4 is considered a journal that published the most original and best-executed research, a 3 publishes original and well executed research, a 2 published acceptable research, and a 1 publishes standard research.

[6] JUFO rankings refer to the Finnish Publication Forum ranking. 1 is considered basic, 2 is considered a leading journal, and 3 is considered a top journal.

Table 3.7. Academic articles published under ATARCA.

Article title	Journal	Link	Open-access status	Ranking	Connection to ATARCA
A complexity management approach to servitization: The role of digital platforms	**International Journal of Operations & Production Management**	https://www.emerald.com/insight/content/doi/10.1108/IJOPM-08-2020-0582/full/html	Gold	ABS-AJG 4	Managing increased complexity in platforms. Study is done in service business context, and it applies to managing anti-rival system complexity as well. The paper's review version in particular benefited from ATARCA work.
Overcoming data gaps for an efficient circular economy: A case study on the battery materials ecosystem	**Journal of Cleaner Production**	https://www.sciencedirect.com/science/article/pii/S0959652622035569	Gold	ABS-AJG 2	Explores the potential and requirements for facilitating a functioning data economy in an asset-intensive industry context: metals and mining. The paper emphasizes the need for more work on establishing new practices and strategies aligned with digital goods – such as anti-rival business models.
What is a business model – for products, platforms, or ecosystems?	**Journal of Business Models**	https://aaltodoc.aalto.fi/handle/123456789/113049	Gold	ABS-AJG 1	Context-specific approach to evaluating business models, using unique mechanisms for value creation and value sharing. The presented argumentation helps ATARCA in conceptualizing the pilot experiments from the business model perspective.
National states, transnational institutions, and hegemony in the EU	**Evolutionary and Institutional Economics Review**	https://link.springer.com/article/10.1007/s40844-021-00227-z	Green	JUFO 1	Scans the current state of the political economy of Europe and indirectly offers a rationale for exploring new decentralized financial and economic structures such as the ones explored in ATARCA.

Extensions of citizenship? Exploring digital, global and environmental citizenship education	**Postcolonial Directions in Education**	https://www.um.edu.mt/library/oar/handle/123456789/99022	Gold	JUFO 1	Explores how the classical dimensions of citizenship play out in curricula for digital citizenship. The results open up an additional dimension to the societal impact of emerging digital technologies (such as the ones developed in ATARCA).

Four articles have been submitted to high-ranking journals. These articles and their status at the end of ATARCA funding period are listed in Table 3.8 below.

Table 3.8. Academic articles submitted and not yet published.

Article topic	Journal domain	Status	Ranking
Organizing for collective action in decentralized ecosystems	Management	**In review (title and outlet not disclosed to preserve anonymous review process)**	ABS-AJG 4
Embracing radical creativity, like anti-rival thinking, in management education	Education	**In review (title and outlet not disclosed to preserve anonymous review process)**	JUFO 3
Leveraging anti-rivalry of digital goods in business	Strategy	**In review (title and outlet not disclosed to preserve anonymous review process)**	ABS-AJG 3
Case report: Polycentric governance tool for anti-rival actions in communities	Political Science	**In review (title and outlet not disclosed to preserve anonymous review process)**	JUFO 1

Additionally, during the time of ATARCA's funding period end, we have one paper ready for submission, as shown in Table 3.9.

Table 3.9. Articles ready for submission at end of ATARCA's funding period.

Article topic	Journal domain	Status	Ranking
How actors engage in creative relationships to pursue and generate novel and valuable ideas	Strategy & Management	**Waiting for author confirmations (in submission portal)**	FT50

3.7 Educational activities

The central concepts of ATARCA, namely anti-rivalry, challenge traditional understandings of value exchange. As such, several educational activities have been undertaken and educational materials have been produced.

3.7.1 Massive Open Online Courses (MOOCs)

Three MOOCs have been created as part of this project. These free, open-access online courses approach anti-rivalry in slightly different ways.

Two of these courses are hosted on the ATARCA website and are designed to function without the intervention or guidance of a teacher, meaning they will continue to be available to the public as long as the website is active. These courses are described in more depth in the education report, deliverable D2.3.

The first MOOC, "An Introduction to Anti-rivalry", was launched in November 2022 and provides an overview of what anti-rivalry means, how it applies to data and the data economy, the challenges facing anti-rivalry, and how it is relevant to business model design. The course includes exercises to promote deeper thinking about the topics at hand, but overall is designed as a simple introduction appropriate for someone. This course is also available in video format on the ATARCA YouTube, as described later in this document..

The second MOOC, Designing Anti-rivalry, was launched February 2023 and serves as a guide on how to utilize the Anti-rival Business Model Design Toolkit. It explains the purpose of each canvas and how to use it, modelling each canvas using the example of the Streamr use case.

The third MOOC, "The Sustainable Consumption MOOC" was created as part of the Food Futures use case. This course combined both theoretical and practical elements, with an emphasis on individual contributions to collaborative efforts for sustainability. Students taking part in this course used the Food Futures App as part of their course work. Table 3.10 below gives an overview of the number of participants in each course, as of March 31,2023.

Table 3.10. Online courses created as part of ATARCA

Course	Users	Users completed	Link
An Introduction to Anti-rivalry (including the video format)	141	111[7]	https://atarca.eu/courses/introduction-to-anti-rivalry/
Designing Anti-rivalry	18	9	https://atarca.eu/courses/designing-anti-rivalry/
Sustainable consumption	180	71	https://studies.helsinki.fi/courses/cur/otm-38d8777a-5c1b-4d72-88a4-d3f1a8284864
Total	339	191	

In total, 191 students took part in ATARCA related MOOCs. While the number indicates a clear interest to the course content, it does not meet the established KPI of 500 students. The timing of the course creation and release proved more challenging than initially expected. Although the course design began in 2021, a better understanding of anti-rivalry was needed to create a succinct and easy to follow course. As such, it was impossible to publish the course ahead of schedule, limiting the amount of time for marketing and completing the course. Because of this, the Introduction to anti-rivalry MOOC was only available for the final five months of the project. This, combined with the realized lack of external incentives, such as university credits, has made it challenging to bring in outside students. However, the steady enrollment of new students indicates that the goal of 500 students will likely be reached within the next year.

[7] Includes 87 users from the ATARCA website and 24 from the video format of the course, available on YouTube at https://www.youtube.com/watch?v=QlF5fb50DzA&list=PLmNO5ufDme9p6W3RdupvptGVSeyjQWtov

3.7.2 Final seminar

ATARCA's Final Seminar was reflective of the interdisciplinary nature of the project, as it included five main events over the course of five days and three additional sessions as part of already existing events. The Final Seminar sessions were both online and hybrid and recordings are available online on the ATGARCA YouTube Channel (https://www.youtube.com/@atarcaeu). The complete schedule for the seminar week is published at: https://atarca.eu/seminar/.

The Final Seminar Week was advertised through ATARCA's social media and newsletter, as well as with targeted invitations to policymakers, academics, and developers. Across these events, there were 172 total participants, including 127 policymakers, social and economic policy researchers, and civic society and 45 developers participating in hands-on sessions. Additionally, as of March 29, 2023, 64 viewers have watched the recordings of the developer workshops on the ATARCA YouTube channel, meaning that the workshop content has reached 109 developers. The events of the final seminar are listed in Table 3.11 below, including links to recordings of each session.

Table 3.11. Events conducted as part of the ATARCA Final Seminar week.

Event	Date	# of Participants
Opening Seminar (recording link)	March 6, 2023	16
ATARCA Pilot Cases (recording link)	March 7, 2023	22
Academic Seminar (recording link)	March 8, 2023	41
4th Policy Observatory (recording link)	March 9, 2023	33
Hands-on Developer Sessions (recording link 1 and link 2)	March 10, 2023	7

The opening seminar included a presentation of the ATARCA project by Co-Pi Dr. S.M. Amadae and keynote speeches by Michael Zargham, Philipa de Primavera, and Matthew Schutte. The second event was the presentation of the ATARCA pilot cases and the results of the anti-rival experimentation. The event was hosted and presented by ATARCA consortium members.

The academic seminar, "Towards an anti-rival digital economy" proved to be the most popular event, with 41 participants, both in-person and online. The academic seminar included four paper presentations and a panel discussion. The paper presentations included:

- "Abolishing artificial scarcity? Anti-rivalry in business model design." – Ville Eloranta, PI of ATARCA
- "Sustainable Consumption: Measure, Record, Validate using sNFT tokens" – S.M. Amadae, Co-PI of ATARCA
- "Anti-rival accounting – towards a simple theory" – Tommi Elo, ATARCA researcher
- "Sustainability transitions through ecosystem innovation" – Joel Wolff, ATARCA researcher

The 4th Policy Observatory was titled “Roadmap for a Regenerative European Digital Economy: What should Europe do to create conditions for sustainable prosperity and regeneration in the digital economy?”. In the session, Demos Helsinki presented the policy recommendations and roadmap as outlined in deliverable 3.2. The presentation was followed by a panel discussion of relevant policymakers and civil servants, including Timo Harakka (Social Democrat Party), Minister of Transport and Communications, Finland, Lídia Pereira, Member of the European People's Party (Christian Democrats), and Joachim Schwerin, Principal Economist in the Directorate-General Internal Market, Industry, Entrepreneurship and SMEs (DG GROW) of the European Commission. There were 33 participants in the session.

Finally, the developer sessions included two hands-on workshops. The first, “Secret sauce of token design – ecosystem design toolkit” focused on using the anti-rival business design toolkit to analyze and strengthen a business or community ecosystem. The second session, ”Building online communities in web3 and beyond (with shareable NFTs)” introduced how to use shareable NFTs to promote stronger community participation and contributions.

In addition, three events, although not officially part of the ATARCA Final Seminar Week, are included to the seminar entirety as similar presentations, tools and workshops were presented, as illustrated in Table 3.12. The lecture at Luzern included a presentation of the ATARCA project, attended by 15 students. The Penn Blockchain conference hackathon included 16 participants in a hands-on developer session using the anti-rival ecosystem design toolkit. A similar session on shareable NFTs was given at the Ethereum Magicians Meetup at ETH Denver, a web3 conference and festival.

Table 3.12. Supplementary events supporting ATARCA Final Seminar week.

Event	Date	# of Participants	Contents
Lecture at Luzern	February 4, 2023	15	Presentation of project results
Penn Blockchain Conference Hackathon	February 9-12, 2023	16	Hands-on developer sessions
Ethereum Magicians Meetup	March 8, 2023	22	Hands-on developer sessions

3.7.3 Other workshops, lectures & presentations

ATARCA researchers presented educational materials in 22 university courses (approximately 615 students) and 14 executive education courses (approximately 310 students) throughout the lifetime of the project. These included both guest lectures and courses led by ATARCA researchers.

The materials used included an introduction to and usage of the toolkit, presentations on anti-rival topics, an introduction to the anti-rival business model patterns, and, in two courses, a student project on ATARCA topics. More information on these presentations can be found in Deliverable D2.3.

3.8 Outside events

ATARCA researchers have presented in several conferences, seminar series, and at universities on themes related to anti-rivalry. Presenting at outside events has been one of the strongest communication and dissemination activities of ATARCA, as it has allowed for networking and in-person discussions on the pilots and on the still somewhat new concept of anti-rivalry.

3.8.1 Academic presentations

Throughout the two years of the project, ATARCA researchers have given 13 academic presentations at conferences and in universities in Europe and the United States. These presentations have been in the field of information technology, organization and management theory, political science, sustainability, and economics. Further plans for academic presentations at conferences after the project has ended are already underway, including presentations at the Annual Meeting of the Academy of Management in August 2023, EGOS Colloquium 2023 in July 2023 and the HEC Paris Workshop on Digital Data in April 2023. Table 3.12 summarizes.

Table 3.13. Presentations by ATARCA consortium members at academic seminars.

Event	Presentation title	Date
Faculty Research lecture, University of Helsinki Global Politics and Communication Program	"Systemic Discrimination and Neoliberal Capitalism"	April 2021

31st RESER International Conference	“Towards a Shared Understanding in Transdisciplinary, Experiential Entrepreneurial Education”	October 2021
31st RESER International Conference	“Aligning Ecosystems with Shared Logic”	October 2021
International Conference on Computation Science	“The Privacy Paradox in Social Media: A system dynamics analysis”	June *2022
IFIP International Conference on Advances in Production Management Systems	Towards a Serious Game on Data Sharing in Business Ecosystems	September 2021
ECPR General Conference	The Web3 Digital Citizen: Implications of Web3 for digital citizenship education	August 2022
Twenty-second International Working Seminar on Production Economics	Data sharing in business ecosystems: A systematic literature review	February 2022
Academy of Management Annual Meeting	Forming digital commons: The role of signaling and sociology of translation in decentralized systems	August 2022
IU - OSTROM Workshop | Colloquium Series	Polycentric Climate Governance Applying Anti-Rival sNFT Cryptocurrency: Tokens Presentation + working paper	September 2022
Strategic Research - Scientific Conference: A fair, just and sustainable society	Enabling holistic sustainable transformation through informed food consumption by using Distributed Ledger Technologies: A pilot use case in Unicafe, Helsinki	October 2022
55th Hawaii International Conference on System Sciences	From transactional to a devoted relationship – toward performance-based service system governance	January 2022
5th Penn Blockchain Conference	Workshop on Anti-rival Business Models/Ecosystem Design Toolkit and shareable NFT	February 2023
Political Theory Colloquium	Game Theory's Missed Model of Systemic Discrimination: Discussing the Wider Implications	February 2023

3.8.2 Other outside events

Outside of academia, ATARCA consortium members have introduced the pilot cases to wider audiences, such as to city officials, in trade conferences, and to civil society. These presentations are listed in table 3.13.

Table 3.14. Presentations by ATARCA consortium members at academic seminars.

Event	Presentation Title	Date
Guest lecture in the course, "CAS Crypto Finance & Cryptocurrencies: How Blockchain and Bitcoin are Changing Business" at Lucerne University of Applied Sciences and Arts.	"Ecosystems and anti-rival goods – greetings from project ATARCA"	June 2021
MedRiSSE Kick off Meeting - Replicable Innovations of SSE in the provision of services and creation of decent jobs in the post covid-19 crisis recovery	Presentation of the REC and the first steps of the ATARCA project	November 2021
Visit from the city of Esenyurt (Turkey) to Barcelona to meet the Barcelona city council in the framework of a collaboration to exchange good practices and experiences between the cities	Presentation of the REC and the first steps of the ATARCA project	March 2022
Presentation in Girona, Spain	Official presentation of Comerç Verd Connecta platform	June 2022
Global NFT Summit	Presentation on Shareable NFT by Matthew Fontana of Streamr	July 2022
Lecture in Planetary Design course at Tampere University, Finland	Lecture on Food Futures Index and its impact on environmental sustainability	November 2022
Presentation to You'Conomy: Youth-Led initiative for ethical finance	Presentation of Barcelona pilot case	February 2023
Ethereum Magicians Session at ETH Denver Conference	Presentation of EIP-5023 (shareable NFT) and ATARCA project.	March 2023

3.9 Communication with policy makers, researchers and civic society

3.9.1 Policy events

As part of the efforts to increase understanding of anti-rivalry, the opportunities it creates for the digital economy and society, and the enablers for positive change, ATARCA hosted ten policy events. These sessions included co-creation workshops, panels, and dialogue discussions bring together technical, political, and academic understandings of anti-rivalry. Policy dialogue sessions focused on the dissemination of ATARCA results and discussions on wider impacts. The policy observatories were conducted with the aim to collect insights and inputs on the policy implications of the work of ATARCA.

These sessions included both in-person and virtual sessions. Some sessions were hosted exclusively as part of the ATARCA, while others were part of larger events, such as Data Week or the Untitled Festival. Participants included policymakers, civil servants, academics and representatives from the industry and civil society. Reflections on each policy observatory were published in blog format on the ATARCA website.

The work conducted in these policy events culminated in the policy recommendations, outlined briefly in section 2.8.2. A table detailing the policy events conducted as part of ATARCA are visible in the Table 3.14. More detailed information on these events can be read in D3.2.

Table 3.15. Policy dialogue and observatories conducted as part of ATARCA.

Event Type	Description	Date	Participant Information
Policy dialogue	"Sense-making"-session to discuss ATARCA theme and map the opportunities of anti-rival concept at the Untitled festival	September 2021	~40 participants
Policy observatory	1st ATARCA Policy Observatory	November 2021	30 participants

Policy dialogue	Session part of Responsible AI Forum	December 2021	Members of industry, civil society, government and academia to discuss project approaches with the perspective of responsible use of AI and encouraged exchange between research and practice
Policy dialogue	Panel titled “New Directions for Data Economy - Potential of Anti-rival Digital Goods”, as part of Big Data Value Week	Mar 2022	78 participants
Policy observatory	2nd ATARCA Policy Observatory	June 2022	37 participants
Policy dialogue	Tallinn Digital Summit, where ATARCA concepts and results were discussed with several public sector digitalization actors	October 2022	No data
Policy dialogue	Presentation of ATARCA results and approach at Organic and Printed Electronics Association conference at University of Tampere, Finland	October 2022	50 participants from academia and technology
Policy observatory	3rd ATARCA Policy Observatory	November 2022	23 participants
Policy observatory	4th ATARCA Policy Observatory: Roadmap for a Regenerative European Digital Economy: What should Europe do to create conditions for sustainable prosperity and regeneration in the digital economy?	March 2023	33 participants
Policy Dialogue	One-to-one meetings in Brussels to discuss the recommendations	March 2023	No data

3.9.2 Policy recommendations

The completed policy recommendations are available in Deliverable 3.2. They are also available as a policy brief on the ATARCA website: https://atarca.eu/wp-content/uploads/Towards-a-regenerative-digital-economy-Policy-recommendations-to-the-European-Union-.pdf

Policy recommendations have been co-created iteratively together with policymakers, civil servants, researchers and the representatives of the industry through policy dialogue and observatory sessions. Within this pan-European Community of stakeholders, ATARCA aimed to ensure they are relevant and linked straight to the policy process of the EU and policymakers are committed to promoting their implementation. Throughout the project lifecycle, ATARCA has interacted with more than 150 policymakers at 10 events, as outlined in section 3.8.1.

Policy recommendations have been also shared through the social media accounts of ATARCA and consortium partners and have been emailed out with the ATARCA newsletter (215 recipients) and to the invitees of the Policy Observatories (884 recipients). The recommendations were also shared via research partners' Twitter account receiving high rates of influence:

Image 3.3. Screenshot of Tweet by Demos Helsinki sharing policy recommendations. The screenshot also highlights that approximately 28,000 Twitter users have viewed this tweet.

Project researchers from Demos disseminated the policy recommendations in Brussels 22.-23.3 via meeting relevant stakeholders and discussing the recommendations. Recommendations received good feedback from the stakeholders. Via linking them into the on-going discussion on the data economy, EU data regulation, web3 development, ATARCA succeeded in building reliable approaches to the future of digital economy.

4. Exploitation Activities

The exploitation activities which have been carried out in ATARCA's pilot projects have focused on reaching the following two KPIs of the project:

- IT-2-QI-1 Create a unique new market opportunity for ≥ 2 European startups or SMEs
- KPI-1-2: ≥ 2 non-partner user organizations using the KPI-1-1 open-source toolkit in their products

Exploitation has been carried out both inside ATARCA's consortium and by non-partner organizations as follows.

4.1 Exploitation of the Anti-Rival Business Design Toolkit

TX, a member of the Streamr Network group and a contractor of ATARCA consortium has adopted the Anti-Rival Business Design toolkit as a part of its Web3 design consultation process which the company calls "Web3 Bootstrapping". The aim of this process is to help Web3 startups determine their value propositions, business models, stakeholder incentives, token designs, governance models and go-to-market strategies.

The toolkit has been utilized in the early stages of the design consultation, or bootstrapping process to map out the opportunities in the customer's business area and domain. So far, the toolkit has been successfully applied in projects related to such use cases as logistics, telecommunications, personal data monetization, personal communications apps, and community platforms.

A case study about one of these client cases, DataHive, has been published on the TX website at https://tx.company/projects/datahive. DataHive is a Canada/US based Web3 startup which is building an ecosystem for a decentralized personal information economy which is both fair to its users and efficient in creating value to different stakeholders such as retailers, financial institutions, and brands. Users of the DataHive app get several useful services like decentralized identification, personalized product offers, and a credit score in return to the data that they share with the companies. To companies, DataHive provides an ethical and sustainable way to collect consumer data and manage user consent for marketing purposes.

The Anti-Rival Business Design Toolkit was used to map DataHive's decentralized ecosystem, to create ecosystem member profiles, and to create a value flow map with a separation between rival and non/anti-rival value flows. The consultation was then continued with more traditional service and business design methods such as tailoring value propositions for DataHive's user personas and preparing a go-to-market plan and roadmap.

In DataHive and other consulting cases, the Anti-Rival Business Design Toolkit has turned out to be a highly useful tool especially for the early stages of the consultation where the ecosystem and its value production need to be understood and modelled before finalizing details of the service concept and its value proposition. TX continues to use the toolkit in new projects and is planning to further develop it by adapting it to the needs of commercial Web3 consulting and token engineering.

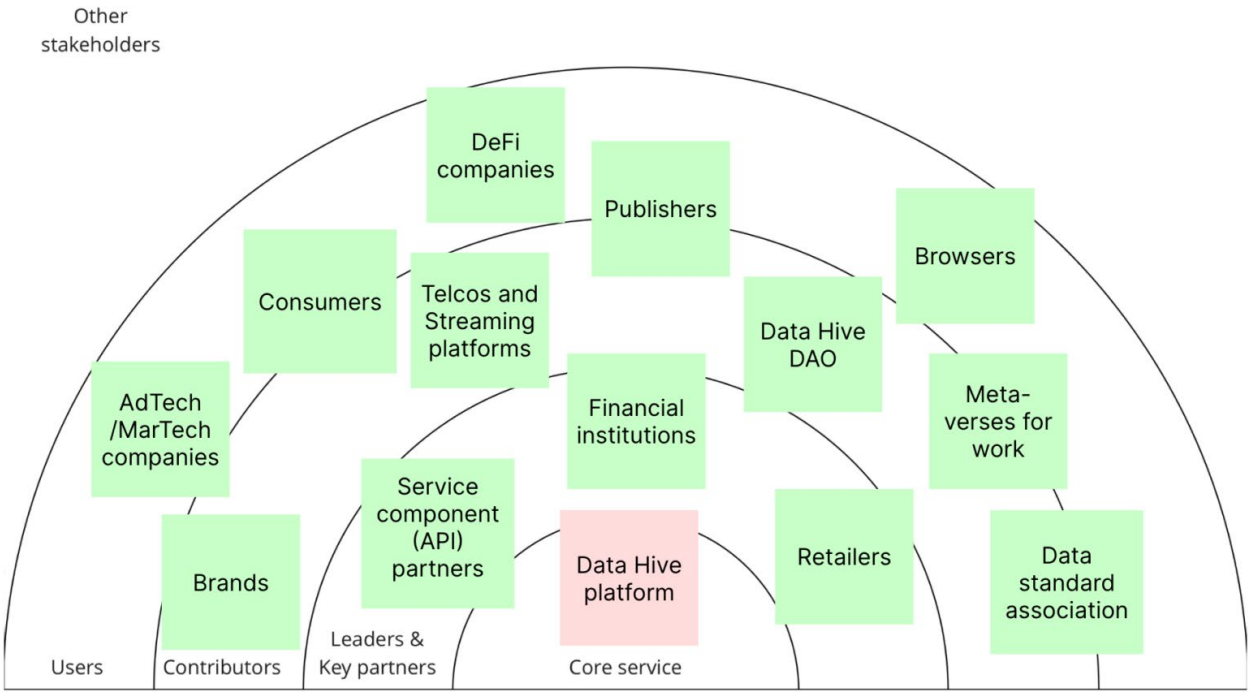


Image 4.1. DataHive ecosystem map (result from Anti-rival Business Design Toolkit).

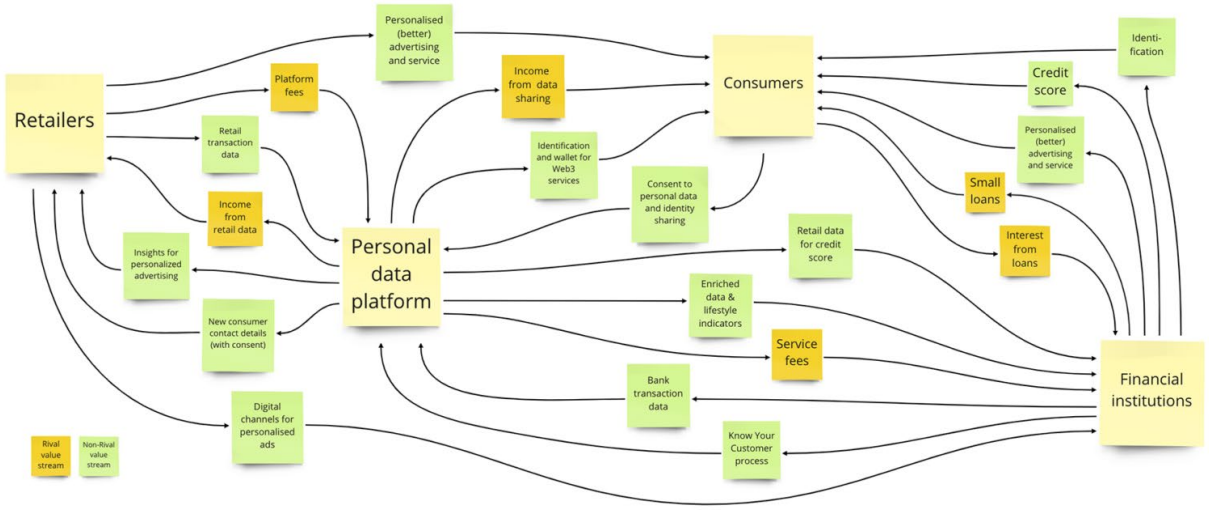


Image 4.2. Simplified value flow map for DataHive (result from Anti-rival Business Design Toolkit).

4.2 Exploitation by non-partner organizations

The following organizations (companies and NGO's) have been approached and they have expressed their interest in adopting ATARCA's results and integrating them to their business and activities.

4.2.1 Struggle C&C

Struggle C&C (www.struggle.wtf) is a cutting-edge company that specializes in crafting comprehensive Web3 experiences tailored for the modern age. With a focus on design, marketing, and development, Struggle C&C is dedicated to helping its clients stay ahead of the curve by creating innovative solutions that meet the needs of today's digital landscape. As a forward-thinking business, Struggle C&C is committed to embracing the future and bringing it to the present, providing its customers with the tools they need to succeed in an ever-evolving technological environment. Struggle & Co is utilizing shareable NFTs and ERC-5023 in their blockchain, web3, tokens and NFT consulting products.

4.2.2 Rezero - Fundació Prevenció Residus i Consum Responsable

Rezero (https://rezero.cat) is a foundation committed to promoting sustainable production and consumption practices with the goal of achieving Zero Waste. Their vision is for a society that values natural resources, integrates all materials into cyclical processes, and eliminates toxic materials and waste. Rezero achieves this through their mission of facilitating product and material reuse and reducing household waste generation, which they promote at social, administrative, and corporate levels. The foundation operates with a set of values that include critical thinking, innovation, rigor, teamwork, networking, learning, personal growth, and political and social advocacy. Rezero aims to transform society by providing verified information and offering alternatives that lead to a more equitable, responsible, and environmentally safe future. Rezero is utilizing shareable NFTs and Talko in their Connecta platform for local shops.

4.2.3 Data Union DAO AG

Data Union DAO AG (https://dataunions.org) is a pioneering company that is revolutionizing the way we think about data ownership and usage. As a leader in the emerging field of Data Unions, Data Union DAO offers a range of innovative solutions that cater to builders, users, and buyers alike. For builders, the company provides a powerful Data Union framework that enables the deployment of smart contracts with one-to-many payments on Ethereum and xDai[8], facilitating the creation of real-time data dApps[9] with a back end that is both secure and efficient. For users, Data Union DAO empowers individuals to participate in the data economy by giving them a stake in the data they generate. By aggregating crowd-sourced user data into Data Unions, the company provides an attractive product for buyers to gain insights, while users receive a share of the profits. For buyers, Data Union DAO offers a range of ethically-sourced data sets, such as browsing, banking, or health data, that are both competitive and instantaneous. Data Union AO can utilize the Talko platform for sustainable community building and motivation without monetary incentives.

[8] xDai is a form of cryptocurrency.

[9] dApps refere to decentralized applications. These applications are run on a decentralized system, such as blockchain.

4.2.4 Roam Networks AG

Roam Networks AG (https://www.roamdao.network) is a trailblazing company at the forefront of the emerging Web3-powered mobile network ecosystem. The company's RoamDAO technology is built on two key components, Roam SIM[10] and Roam node. The Roam nodes are operated by users and form a private network that provides mobile connectivity to Roam SIMs. These SIMs offer global connectivity via the Roam nodes and global roaming partners, creating a powerful and decentralized mobile network. Together, these elements form an innovative, Web3-powered mobile network ecosystem that is poised to transform the telecommunications industry. By leveraging the power of blockchain technology, Roam Networks is able to offer a unique and revolutionary approach to mobile connectivity, one that is both secure and efficient, and that is built on the principles of decentralization and user empowerment. **Roam Networks can utilize the Talko platform for sustainable community building and motivation without monetary incentives.**

4.2.5 HealthBlocks

HealthBlocks (https://www.healthblocks.io) is driven by the vision that users should own and control their own data and be empowered to valorize it the way they see fit. Web3 provides the opportunity to give the power of data back to the user which creates new ways to organize health management which in turn facilitates an environment for new business opportunities. **HealthBlocks can utilize shareable NFTs to compensate people for sharing their health data in situations where the data value is too insignificant to compensate it with other monetary and fungible incentives.**

[10] Roam SIMs are like any other SIM card you put in your phone, providing access to mobile networks. However, Roam SIMs also give access to private Roam mobile networks.

5. Conclusion: highlights and lessons learned

Overall, the communication, dissemination and exploitation efforts of ATARCA have succeeded in introducing the concepts of anti-rivalry and its potential for new approaches to business and ecosystem management. While it is still a new concept for many, we have established a starting point for those who are curious about where anti-rivalry may take them.

5.1 Highlights

Social media proved much more successful than initially imagined, far surpassing the original KPIs. LinkedIn served as a successful tool to engage with those interested in the academic and policy implications of the project. The massive growth in LinkedIn followers in the final quarter of the project demonstrates that there is a strong interest in anti-rival technologies. While less popular, Twitter was very successful when reaching audiences interested in the technological aspects of the project, particularly in relation to token engineering, blockchain, and web3 concepts.

The second highlight in ATARCA's communication and dissemination activities was the success of the policy dialogues and observatories. These sessions were highly fruitful, as they generated discussions on the societal impacts of anti-rival technologies. Through the dialogue sessions and observatories, we were also able to reach policymakers and civil servants across Europe who need a better understanding of the increasingly digital economy.

Third, each of the use cases found success in sharing the progress of their experiments with the local community. The Green Shops case was highlighted in several local newspapers, and Food Futures gained attention in local university publications and in several local conferences and course presentations. As a digital platform, Streamr was able to share progress to their digital community and in the wider web3 space, for example in blockchain conferences in Europe and the United States.

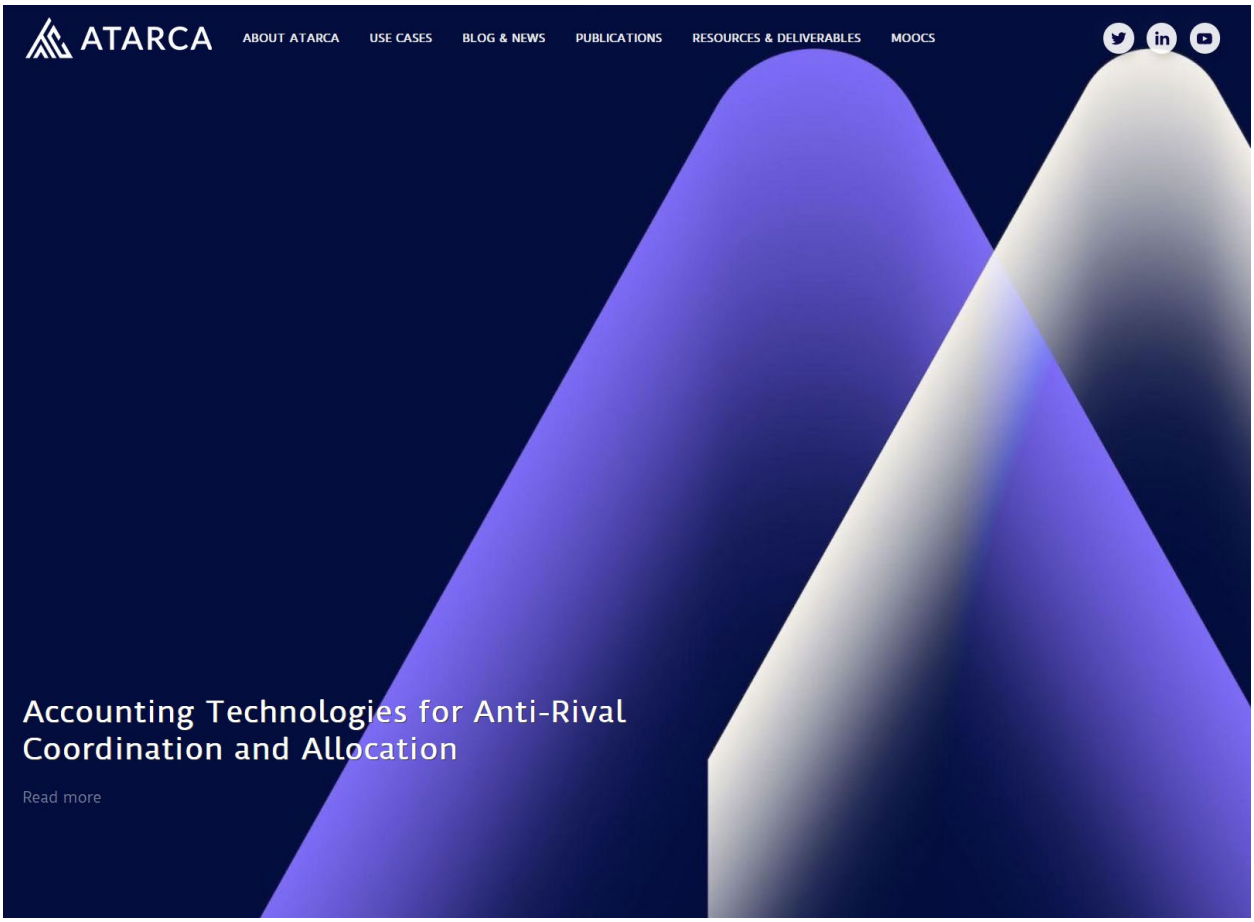
Declaration of AI and AI-assisted technologies in the writing process

During the preparation of this work the authors used OpenAI GPT3.5 model in order to improve English grammar and text flow. The authors take full responsibility for the content of the publication.

Appendix A. Examples of ATARCA visual identity

This appendix includes screenshots and images demonstrating the ATARCA visual identity.

Below is a screenshot of the ATARCA homepage, featuring the signature imagery of the project visuals.



The next pages includes slides from the sample PowerPoint, prepared for ATARCA researchers to use when presenting the project.

Introducing ATARCA

Materials intended for introducing ATARCA. Edit as needed for your own purposes

ATARCA

The global economy is increasingly centered on data, but the data economy is flawed,

We don't know how to compensate for producing, analysing and sharing data – so we resort to traditional understandings of goods, using currency to compensate for data products

But money is not like data – We need new radical approaches

ATARCA

In ATARCA, we believe (suggest) that digital goods are **anti-rival** in nature

Anti-rival goods **gain value** when used; their subtractability is negative.

Therefore their economics is also fundamentally different from that of rival or even nonrival goods, and current economic structures and institutions are not prepared to handle anti rival goods

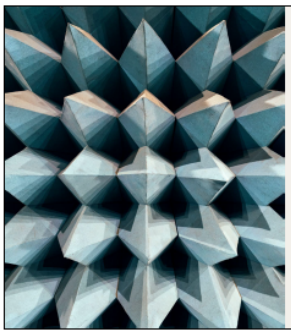
---

What is an anti-rival good?

Subtractability (Ostrom, 2009)

	Rival	Non-rival	Anti-rival
Excludable	Private goods *(e.g. coffee)*	Club goods *(e.g. museum visit)*	Network goods *(e.g. Fortnite)*
Non-Excludable	Common-pool goods *(e.g. ocean fish)*	Public goods *(e.g. public beach)*	"Symbiotic" goods *(e.g. internet)*

ATARCA



Our vision is to create new decentralized **technology**, "anti-rival tokens," and **scientifically** founded proposals for new **policies** to enable efficient, **decentralized**, market-style trading and **ecosystems for anti-rival goods.**

The project impact goals include:

- Practical **use cases** that combine anti-rival goods & token engineering
- **Reports**: crypto-economic anti-rival mechanisms & anti-rival business model archetypes
- **Technology**: Open-source technology repositories on GitHub
- **Education**: business model design toolkit, MOOC on anti-rival business models

ATARCA

Use cases

Barcelona Green Shops	Streamr Community Case	Food Futures Index
REC is a social currency in Barcelona used in Green Shops, a network of local shops committed to reducing waste and promoting local, sustainable products. ATARCA will enhance the current community platform through tokenization of anti-rival value, rewarding Green Shop clients for contributing to the platform or shopping in local shops. **Expected outcomes:** Enhanced interaction between community members, promotion of green and sustainable consumption.	Since 2017, Streamr has been building a decentralized data network, requiring the support of an active community. Community members will be able to earn shareable NFTs that serve as a proof-of-contribution towards Streamr project. This framework will applicable also to other Web3 communities. **Expected Outcomes:** Increased community engagement and contributions, including both programming and non-programming contributions.	The Food Suffering and Wellbeing Index gathers food production impact variables into one place, making the impact and supply chains more transparent. This case applies anti-rival community currencies (non-transferable tokens and shareable non-transferable non-fungible tokens) to recognize actors' contributions and actions with positive-sum externalities. **Expected Outcome:** Actors will be incentivized to use the information available to make more sustainable meal choices.

ATARCA

Contact us

@ATARCA_EU
Atarca EU
https://atarca.eu

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 964678.

ATARCA

Below are some sample tweets using the project visual identity to introduce the pilot cases.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 964678.