

OpenAPC in Practice

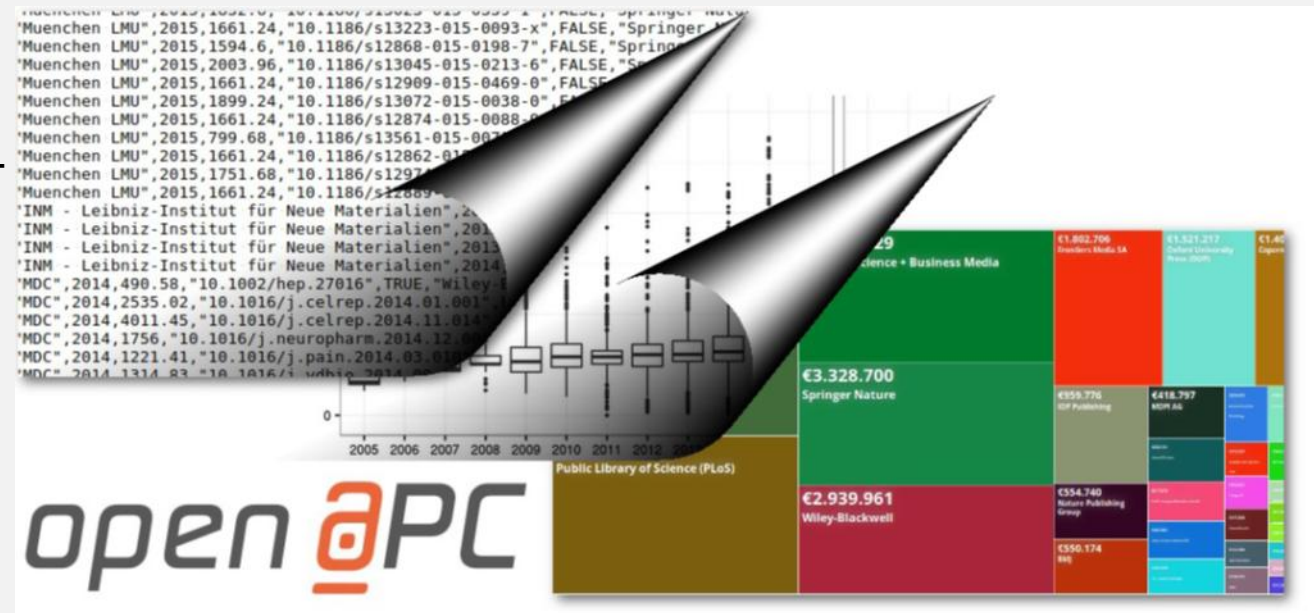
Enhancing Cost Transparency in Open Access Publishing

Embracing the future. Making Open Science today -
Third Edition

16 September 2026

Julia Bartlewski

 [0000-0001-5959-4999](https://orcid.org/0000-0001-5959-4999)
University Library Bielefeld



Agenda

- Introduction 1 – Why publication cost transparency matters?
- Introduction 2 – What is OpenAPC?
- Aims and principles
- Participation, workflows and recent developments
- OpenAPC services for contributing institutions
- Outlook on planned extensions

Why publication cost transparency matters?

- Transparency of publication costs contributes to the open access transformation →
Comprehensible cost allocation
- Enables an overview of publication costs across different publishers and publishing models
and may counteract publisher-driven price increases → Cost comparisons
- Provides an overview of payments from scientific institutions to publishers

OpenAPC - Introduction

- Open Data project, established at Bielefeld University Library in 2014
- Aggregates data on fee-based OA publishing:
 - APCs (journal articles; APC data set)
 - Data on transformative agreements (since 2016; TA data set)
 - BPCs (OA books, since 2020; BPC data set)
- OpenAPC maintains different data sets for accepted publication types → OA charges for other publication types (e.g. single book chapters or conference proceedings) are not collected at the moment
- Releases data sets under an Open Database License (<http://opendatacommons.org/licenses/odbl/1.0/>)

OpenAPC – Facts & numbers

(as of 14/09/2026)

APCs

- 488 institutions
- 293,435 articles
- Aggregated total APC costs: 614,112,936 €
- Average: 2,087 €

BPCs

- 120 institutions
- 2,707 books
- Aggregated total BPC costs: 17,956,939 €
- Average: 6,634 €

TAs

- 578 institutions
- 227,648 articles
- 295 transformative agreements

OpenAPC principles

- Maximum of transparency ("Open" not only applies to data, but also to code/workflows/history)
 - GitHub repository as main data storage:
 - Transparency and traceability
 - <https://github.com/OpenAPC/openapc-de>
- High degree of automation
- Low entry barriers for new participants

OpenAPC aims

- Enable transparent and reproducible reporting for institutions and funders
- Establish cost transparency and comparability
- Track development of costs over time
- Provide data as foundation for policy making in the ongoing OA transition

Data submission and workflows

- All data is provided by academic institutions, national aggregators, national consortia or funders on a voluntary basis
- Data should be provided in a machine-readable, platform-independent format (CSV)
- The submitted CSV file should be in accordance with a specific data schema to ensure that it contains all relevant information → Data Submission Handout

Data ingestion

➤ Participants may provide new data in different ways:

- **E-mail:** Sending a message with a CSV file attached to openapc@uni-bielefeld.de
- **Pull Request:** Creating a pull request to add the data to the original OpenAPC GitHub repository
- **Harvesting:** Integrating cost data directly into their institutional repository and letting OpenAPC harvest it

Participating with APC data

- Institutions only have to provide a minimal data set
→ only **5 data fields are mandatory** when reporting data to OpenAPC
- Most bibliographic metadata is enriched by OpenAPC using external services
- Improves consistency & reduces workload for participants

institution	period	euro	doi	is_hybrid	publisher	journal_full_title	issn	issn_p	issn_e	issn_l	license_ref	in_crossref	pmid	pmcid	url	doaj
Bamberg	2013	1372	10.2147...	FALSE	Dove Medical...	Journal of...	1178-7090	NA	1178-7090	1178-7090	http://creative...	TRUE	2378...	PMC3...	NA	TRUE
Bamberg	2013	960	10.3389...	FALSE	Frontiers...	Frontiers in...	1664-1078	NA	1664-1078	1664-1078	NA	TRUE	2376...	PMC3...	NA	TRUE
Bamberg	2013	960	10.3389...	FALSE	Frontiers...	Frontiers in...	1664-1078	NA	1664-1078	1664-1078	NA	TRUE	2384...	PMC3...	NA	TRUE

 Reported by institution
 Crossref
 Europe Pubmed Central
 ISSN Organisation
 DOAJ

Definition of costs

- There is only one mandatory field which is used for costs (“euro”)
- All reported publication fees are gross values
 - Modifiers like taxes or discounts should always be included into the amount
- Only the APC itself should be reported
 - additional costs, e.g. page/colour charges or submission fees, are reported separately

institution	period	euro	doi	is_hybrid	publisher	journal_full_title	issn	issn_electro	issn_l	license_ref	indexed_in_crossref	pmid	pmcid	url	doaj	
Bamberg U	2013	1372	10.2147/jpr.s45097	FALSE	Dove Medical Press Ltd.	Journal of Pain Research	1178-7090	NA	1178-7090	1178-7090	http://creat	TRUE	23788838	PMC3684223	NA	TRUE
Bamberg U	2013	960	10.3389/fpsyg.2013.00318	FALSE	Frontiers Media SA	Frontiers in Psychology	1664-1078	NA	1664-1078	1664-1078	NA	TRUE	23760550	PMC3669756	NA	TRUE
Bamberg U	2013	960	10.3389/fpsyg.2013.00406	FALSE	Frontiers Media SA	Frontiers in Psychology	1664-1078	NA	1664-1078	1664-1078	NA	TRUE	23847576	PMC3705173	NA	TRUE
Bamberg U	2013	960	10.3389/fpsyg.2013.00453	FALSE	Frontiers Media SA	Frontiers in Psychology	1664-1078	NA	1664-1078	1664-1078	NA	TRUE	23882250	PMC3714455	NA	TRUE
Bamberg U	2013	182	10.6000/1929-4409.2013.02.32	FALSE	Lifescience Global	International Journal of Criminology	1929-4409	NA	1929-4409	1929-4409	NA	TRUE	NA	NA	NA	FALSE

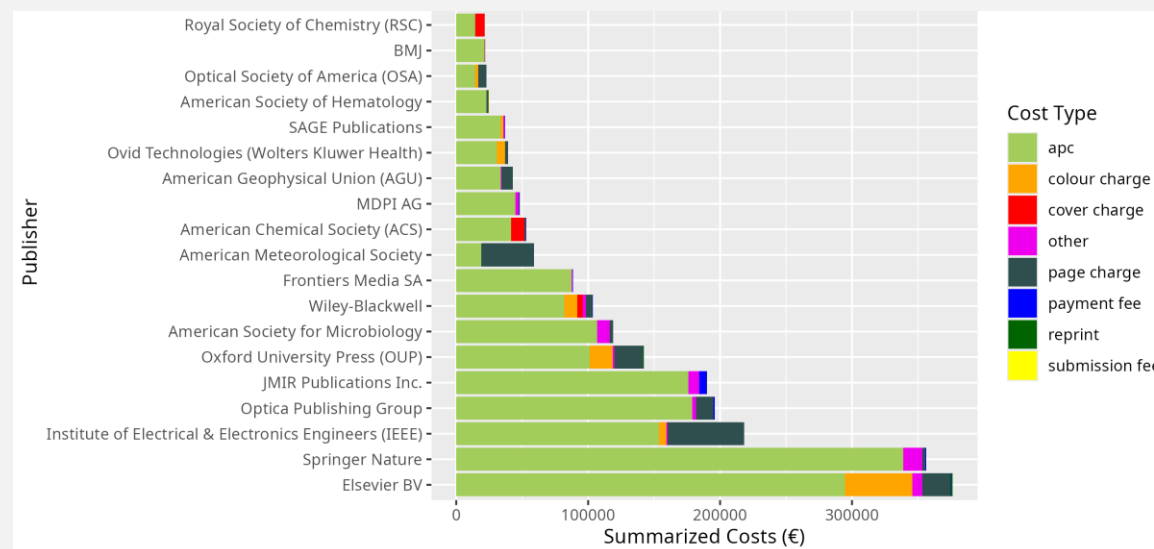
Recent development 1: Additional publication costs

- Extension applies to journal articles
 - Within the framework of the openCost project (<https://www.opencost.de/>)
- The different types of costs that can be reported are based on the definitions of the openCost metadata format: colour charge, cover charge, page charge, permission, reprint, submission fee, payment fee, other
- These cost types are considered optional and are therefore stored in a separate data set (“Additional Costs data set”, https://github.com/OpenAPC/openapc-de/blob/master/data/additional_costs.csv) linked to the main entry of the publication in the APC (or TA) data set using the DOI as the primary key



Cost Type	Number of Articles	Total Sum (€)
colour charge	96	127,356
cover charge	29	45,505
other	1,034	131,145
page charge	224	229,444
payment fee	193	10,795
reprint	6	3,470
submission fee	26	2,685

Overview of
the different
additional
cost types
already
aggregated
in OpenAPC



(<https://github.com/OpenAPC/openapc-de?tab=readme-ov-file#additional-costs-for-articles-apc-data-set>, as of 08.09.2026)

Reporting additional costs via CSV files

Mockup example: Bielefeld University

The first 5 columns are mandatory for submitting APC data to OpenAPC

1	institution	period	euro	doi	is_hybrid	colour charge	cover charge	page charge	other	
2	Uni Bielefeld	2015	1520	10.3389/fpsyg.2015.01163	FALSE	1200	NA	NA	25	
3	Uni Bielefeld	2022	3401	10.3389/fpsyg.2022.986787	FALSE	NA	NA	NA	50	
4	Uni Bielefeld	2022	1152	10.3389/fcomp.2022.791704	FALSE	NA	NA	500	NA	
5	Uni Bielefeld	2022	942	10.1007/s44202-022-00043-5	FALSE	NA	NA	300	100	
6	Uni Bielefeld	2018	1396	10.1186/s12888-018-1839-z	FALSE	800	NA	NA	NA	
7	Uni Bielefeld	2018	1916	10.1186/s12916-018-1140-5	FALSE	NA	2000	NA	NA	
8	Uni Bielefeld	2019	2010	10.3389/fpsyg.2019.01505	FALSE	NA	NA	600	NA	
9	Uni Bielefeld	2017	1983	10.3389/fpsyg.2017.00241	FALSE	NA	NA	NA	100	
10	Uni Bielefeld	2023	1815	10.1080/20008066.2023.2202053	FALSE	NA	NA	NA	100	
11	Uni Bielefeld	2023	3348	10.3389/fpsyg.2023.1138273	FALSE	NA	NA	NA	100	
12	Uni Bielefeld	2023	1081	10.1186/s40359-023-01158-7	FALSE	NA	NA	NA	NA	
13	Uni Bielefeld	2023	1966	10.3390/bs13070535	FALSE	NA	NA	NA	NA	
14	Uni Bielefeld	2023	3397	10.3389/fnbeh.2023.1155223	FALSE	NA	NA	NA	NA	
15	Uni Bielefeld	2019	2010	10.3389/fpsyg.2019.01637	FALSE	NA	NA	NA	NA	
16										

To report additional costs, simply add a selection of data fields from the APC Additional Costs data set to the sheet

Recent development 2: From publication-level to contract-level data

- Until recently, all cost data in OpenAPC was strictly publication-based → Cost data tied to records in a 1:1 relation
- Well suited for APCs/BPCs, but not when cost data is not tied to publications (e.g. transformative agreements with lump sums)
- TA data set: Most records in the data set do not include cost information → Cost and payment modalities can differ a lot, which makes it difficult to assign a per-publication price tag

Solution: New data structures for contracts (OpenAPC v5)

- Create a new data set which stores metadata + cost data on contracts (contracts.csv)
- Link articles in the existing TA data set to contracts via a common identifier (group_id)

contracts.csv

institution	consortium	contract_name	identifier	period_from	period_to	cost_type	euro	group_id
TU Muenchen	Projekt DEAL	Elsevier (DEAL)	els2023deal	2024	2024	publish and read	1149976.52	02kkvpp62_els2023deal_2024

transformative_agreements.csv

institution	period	euro	doi	...	agreement	group_id
TU Muenchen	2024	NA	10.1016/j.tetlet.2024.155309	...	els2023deal	02kkvpp62_els2023deal_2024
TU Muenchen	2024	NA	10.1016/j.physd.2024.134391	...	els2023deal	02kkvpp62_els2023deal_2024

OpenAPC services for contributing institutions

Project blog

- Analysing contributions on APC data
- <https://openapc.github.io/>

Data analysis

- Auto-generated report
- Aim is to provide clues to possible errors in the submitted APC data

Data visualisation

Treemap server: <https://treemaps.openapc.net/>

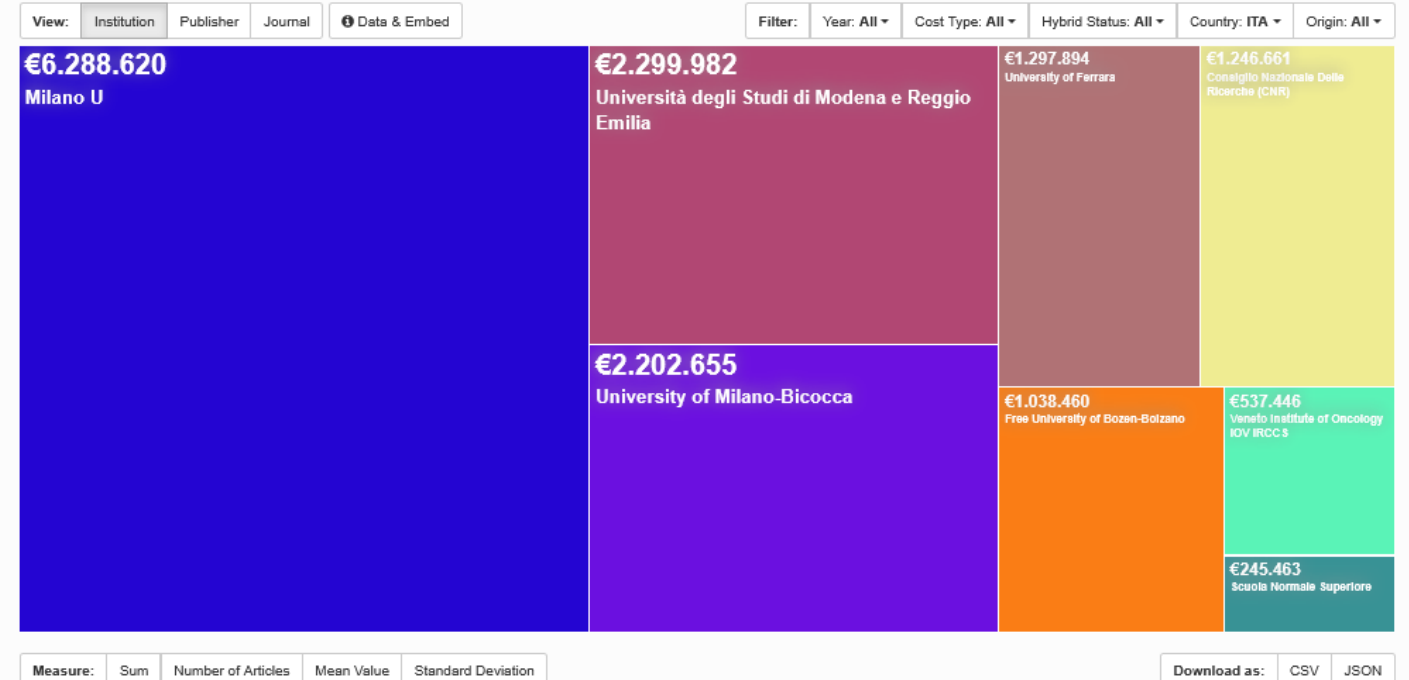
- Most easy and intuitive way to browse and inspect the OpenAPC data
- View the data for single institutions or aggregated collections, e.g. the whole APC data set
- Integrate treemaps into your own blog or website
- Direct export of treemap sections as CSV

APC Data from Italy

- 8 Italian institutions
- 6,945 articles
- €15.1 million reported APC expenditures

OPENAPC

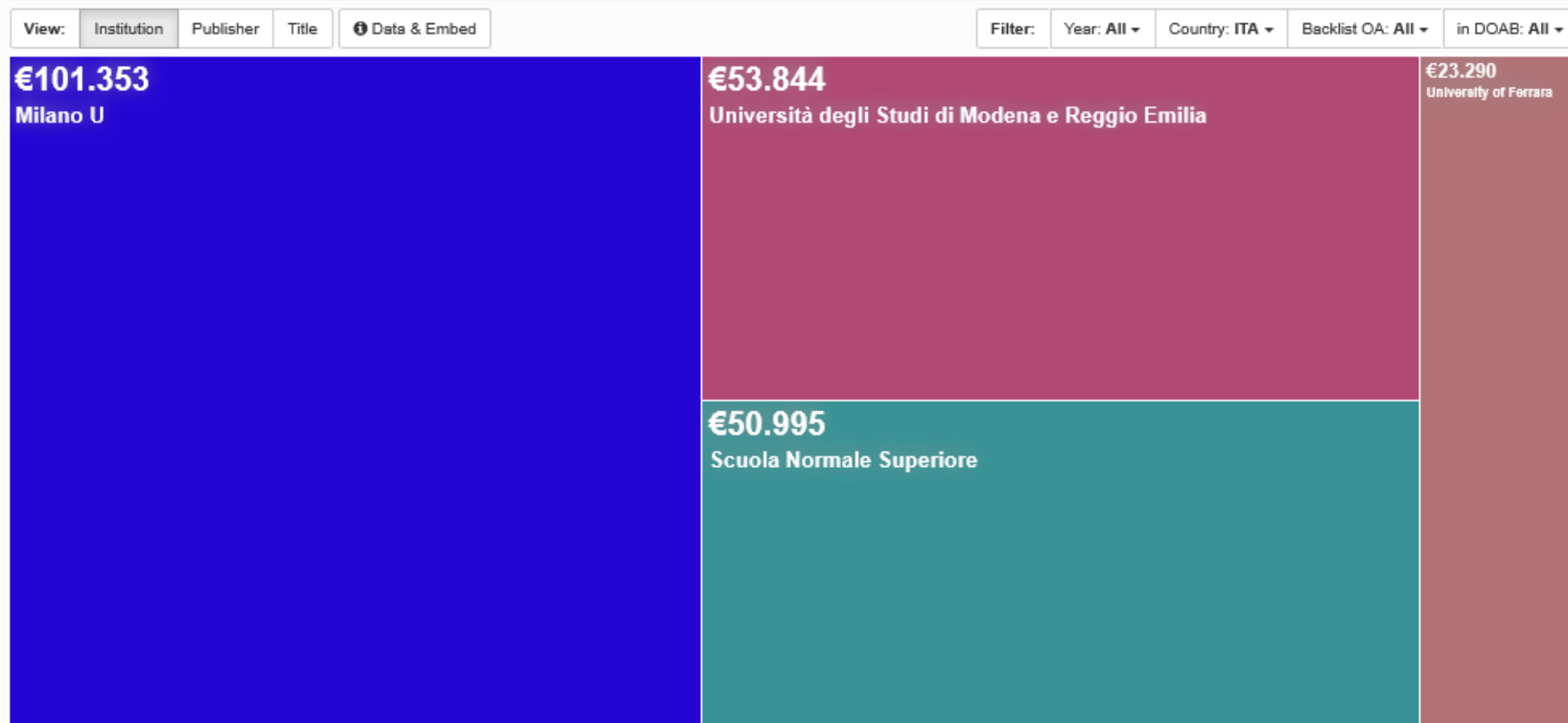
This treemap visualises cost data on Open Access journal articles (APCs). Since switching to a new data model in OpenAPC v5 (February 2026), this visualisation is also based on article-level cost data from transformative agreements, which might not conform to the "traditional" definition of an APC in all cases. You may change this behavior using the **Origin** filter, setting it to **APC DATA** emulates the pre-v5 approach.



Measure:	Sum	Number of Articles	Mean Value	Standard Deviation	
Institutions (8 entries)					
Milano U	€6.288.620	3013	€2.087	€1.129	41.49%
Università degli Studi di Modena e Reggio Emilia	€2.299.982	1071	€2.148	€1.142	15.17%
University of Milano-Bicocca	€2.202.655	1006	€2.190	€1.087	14.53%
University of Ferrara	€1.297.894	625	€2.077	€1.115	8.56%
Consiglio Nazionale Delle Ricerche (CNR)	€1.246.661	411	€3.033	€998	8.22%
Free University of Bozen-Bolzano	€1.038.460	520	€1.997	€784	6.85%
Veneto Institute of Oncology IOV IRCCS	€537.446	211	€2.547	€932	3.55%
Scuola Normale Superiore	€245.463	88	€2.789	€1.730	1.62%
+ view small values					
Total	€15.157.181	6945	€2.182	€1.124	100%

BPC Data from Italy

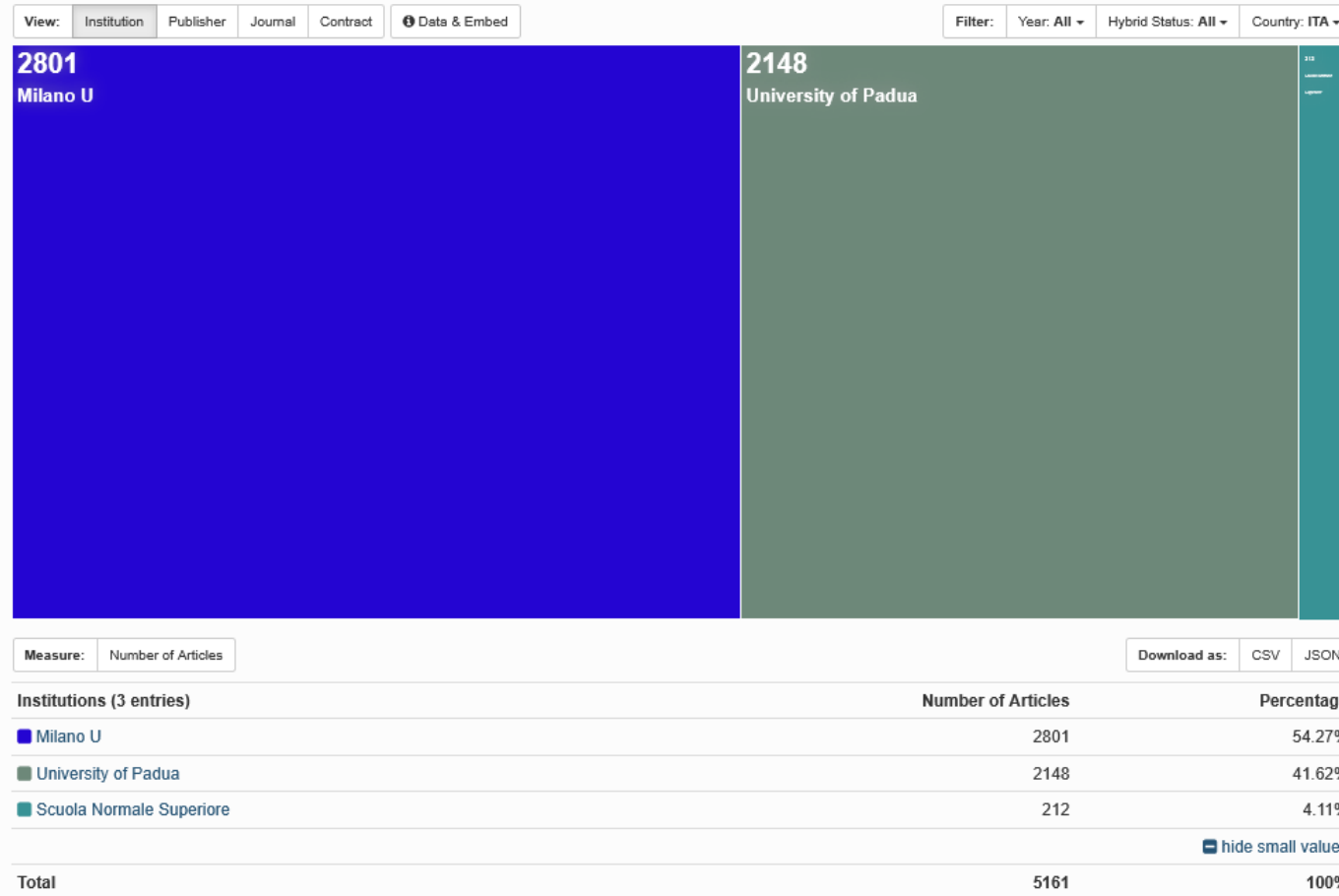
OA MONOGRAPH CHARGES (BPCS)



Measure:	Sum	Number of Books	Mean BPC	Standard Deviation	
Institutions (4 entries)					
■ Milano U	€101.353	22	€4.607	€3.283	44.17%
■ Università degli Studi di Modena e Reggio Emilia	€53.844	15	€3.590	€3.926	23.46%
■ Scuola Normale Superiore	€50.995	12	€4.250	€2.598	22.22%
■ University of Ferrara	€23.290	4	€5.823	€4.722	10.15%
+ view small values					
Total	€229.482	53	€4.330	€3.403	100%

TRANSFORMATIVE AGREEMENTS - COUNT

This treemap visualises data related to OA transformative agreements (or contracts in general). The data is drawn from two different data sets: The [OpenAPC TA article collection](#) and the [OpenAPC contracts collection](#), and groups of articles in the former are linked to contracts records in the latter via a common group_id. In contrast to almost all other OpenAPC treemaps, this visualisation is based on article counts as metric (instead of cost data in Euro). It displays all articles associated with transformative agreements, including those for which no article- or contract-level cost information is reported, providing a comprehensive overview of publications reported to OpenAPC under transformative agreements.



→

Transformative agreements linked to articles reported by Italian institutions

Title (24 entries)

Springer Nature (CRUI-CARE) 2020-2024
Elsevier (CRUI-CARE) 2023-2027
Wiley (CRUI-CARE) 2020-2023
Wiley (CRUI-CARE) 2024-2027
American Chemical Society (CRUI-CARE) 2020-2023
Springer Nature (CRUI-CARE) 2025-2029
IEEE (CRUI-CARE) 2022-2024
Cambridge University Press (CRUI-CARE) 2023-2025
Walter de Gruyter (CRUI-CARE) 2020-2022
Cambridge University Press (CRUI-CARE) 2020-2022
Royal Society of Chemistry (CRUI-CARE) 2022-2024
Wolters Kluwer Health (CRUI-CARE) 2021-2024
Oxford University Press (CRUI-CARE) 2024-2026
IOP Publishing (CRUI-CARE) 2023-2025
Emerald (CRUI-CARE) 2020-2024
AIP Publishing (CRUI-CARE) 2023-2026
American Chemical Society (CRUI-CARE) 2024-2026
Wolters Kluwer Health (CRUI-CARE) 2025-2027
Walter de Gruyter (CRUI-CARE) 2023-2025
Royal Society of Chemistry (CRUI-CARE) 2025
Emerald (CRUI-CARE) 2025
Association for Computing Machinery (CRUI-CARE) 2022-2025
BMJ Publishing (CRUI-CARE) 2023-2024
BMJ Publishing (CRUI-CARE) 2025

Next steps: Expanding the scope of OpenAPC

More publication types

- **Conference papers**

Extending OpenAPC to include publication-related data for conference papers and other conference outputs

- **Book chapters**

Broadening the coverage of OA book publishing to include individual book chapters

More publishing models

- **Memberships**

Supporting the reporting of publications and cost data associated with membership models

- **Structured identification**

A key challenge has been the lack of unique, machine-readable identifiers for some agreements and membership models → The openCost Registry (<https://opencost.de/news/en/opencost-registry/>) addresses this by assigning unique opencostids, enabling these models to be consistently identified and linked across systems

Conclusion

OpenAPC today

- OpenAPC is fully transparent and community-driven
- OpenAPC provides transparent and comparable publication cost data
- OpenAPC data are also used by other services and aggregators, such as OpenAIRE Graph and OpenAlex

Use for institutions

- Monitor · report · communicate
Use OpenAPC data and visualisations for institutional reporting, monitoring and decision-making

Use for researchers & PhD students

- Understand · compare · discuss
Understand and compare the costs of scholarly publishing across different publishing models

Looking ahead

- Continuous development of the infrastructure and data model allows OpenAPC to cover an ever broader range of publication costs and build a more comprehensive picture of publication expenditures

Thanks for your attention!

Contact:
openapc@uni-bielefeld.de

OpenAPC-Wiki:
<https://github.com/OpenAPC/openapc-de/wiki>



This document is licensed under the Creative Commons Attribution 4.0 International License:
<https://creativecommons.org/licenses/by/4.0>

<https://openapc.net/>