



STM Article Sharing Framework IEEE's Implementation Testimonial

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IEEE's ASF journey has been a fruitful evolution; with a collection of concepts that was shaped by collaboration of an engaged team and guidance from STM's STEC. IEEE's entrance into this area was around the middle of 2019. Initially it was a wait and learn approach; primarily to understand how other publishers were adopting ASF.

IEEE along with many publishers had witnessed the illegal use of its articles by various platforms without authorization. Once Article 17 of the EU Copyright Directive was enacted on 7th June 2019, we became enthused and motivated to participate. Since Article 17 was to be implemented by June 2021, we were fully committed to meeting the deadline.

IEEE adopted a phased implementation approach beginning in early 2021. It was an organic process of formalizing the framework while having to implement pieces of it. Since the proposal was well baked and already fully developed, it was not very difficult to implement. Regular participation with the committee, listening to STM webinars and joining Q&A sessions, helped the IEEE team. Special thanks to Dan O'Brien (ACS) and Esther Heuver (Elsevier) for leading this effort. The guidelines were well documented and easy to comprehend.

It was a two-step process:

- 1) [Embedding DOI and JAV metadata in PDFs as XMP](#) - IEEE had previous experience in XMP technology and we have already been embedding DOIs in PDFs. Since we just had to add VOR, it was straight forward to implement.
- 2) [Embedding sharing permissions in Crossref's ALI metadata](#) – Since IEEE participates in CHORUS and was already depositing other license indicators, we had to add additional values to the xml. We had to wait for Crossref to support the new XML Schema and that caused some delay.

Finalizing the sharing policies:

The most challenging part was to decide on the policies to adopt. Choosing from 48 policies was not easy. Also bringing management and stakeholders up to speed on the concept was quite a task.

- Had to get upper management buy-in: It was difficult to explain and communicate the various permutations of policy assignment.
- The tables, acronyms/definitions, documentation, and slides proved to be very useful.
- Presented to various stakeholders: Publications Management, Marketing/Product Team, IT and Scrum teams (developers/testers).
- We narrowed down to restrictive policies for research content, broader policies for Ephemera content and none for OA, since OA content already has CCBY licenses.
- STM's Policy Builder tool was very useful (2021_04_28_STM_ASF_Policy_Indicator_Info.xlsx)
- Conducted workshop with Management team. Used below table to narrow down the policies:

		RCG					GA				
Platform Type		FT	AB	REF	CIT	ASF Policy	FT	AB	REF	CIT	ASF Policy
PS	VoR	Share	Share	Share	Share	029	??	??	??	Share	??
	AM										
	AO										
PNS	VoR	??	??	??	Share	??	Don't Share	Don't Share	Don't Share	Share	004
	AM										
	AO										

Example: When Platform Type=PNS & Audience=RCG, For VoR, Should FT, Abstract, References be shared? Once that is decided, the appropriate policy is determined using the tool builder.

Implementation:

IEEE used Agile methodology to develop, test, and deploy across several systems. IEEE has several Scrum teams and works in sprints.

- Step 1 (XMP metadata in PDFs) was implemented in one 3-week sprint in our Asset Management repository. This was an easy win.
 - Step 2 (assigning sharing policy DOIs) Once the policies were finalized, this was implemented across 2 applications, Asset Management & Crossref Deposits, in 2 sprints.
 - Had to be rolled out in Dev, SIT, QA and Production environments.
 - After the first round of development and testing, questions came up regarding OA and Ephemera content which we hadn't considered earlier. We had to fine tune sharing policies for such content (thanks to Agile!).
- Rolled out in Production in March 2022 for new articles (journals and conferences).

- Three-year backfile deposit (~750,000 articles) was completed by July 2022. We used Crossref's resource only deposit for batch updates of policy DOIs/licenses.