

Using linked data notifications to assemble the scholarly record on the decentralised web

Patrick Hochstenbach, Ruben Dedecker, Miel Vander Sande,
Jeroen Werbrouck, Herbert Van de Sompel, Ruben Verborgh



Hochstenbach, Dedecker, Vander Sande, Werbrouck, Van de Sompel & Verborgh

Mellon Project Overview

- Pls: Ruben Verborgh, UGent
- PhD students: Ruben Dedecker, Patrick Hochstenbach
- Duration: 2020-01-01 - 2023-12-31
- Funding: +/- 800 K (staff + travel)
- Based on vision of Herbert Van de Sompel presented in the 2017 CNI Paul Evan Peters lecture “Scholarly Communication: Deconstruct & Decentralize?”, see <https://www.youtube.com/watch?v=o4nUe-6Ln-8>
- Related efforts:
 - COAR Notify
 - Erfgoed POD, NDE Netherlands, Miel Vander Sande, Enno Meijers
 - Consolid Jeroen Werbrouck

COAR Vision for Next Generation Repositories

Our vision is to position repositories as the foundation for a **distributed, globally networked infrastructure** for scholarly communication, on top of which **layers of value added services** will be deployed, thereby transforming the system, making it more **research-centric**, open to and supportive of innovation, while also **collectively managed by the scholarly community**.

<https://www.coar-repositories.org/news-updates/what-we-do/next-generation-repositories/>



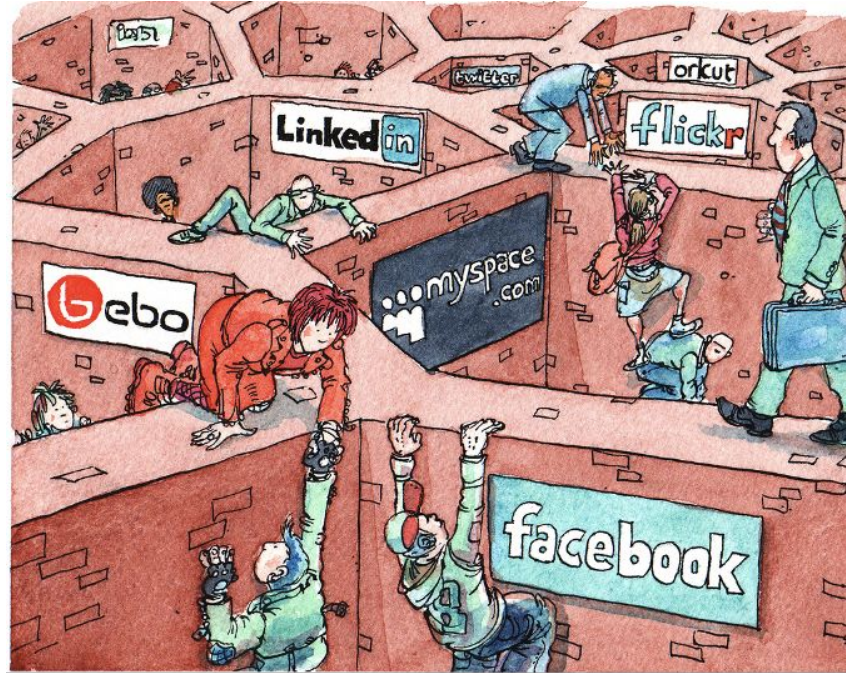
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Distributed & Global? Tim says: Decentralized

Tim Berners-Lee

- Some massive central **portals dominate** the web
- Service is smooth, free; the **user is the product**
- **No mobility**; the user not in control of (moving) her data
- **No interoperability**; different APIs (if any) for different platforms
- **Functionality contained within a portal**, can't be reused on content that resides in other portal

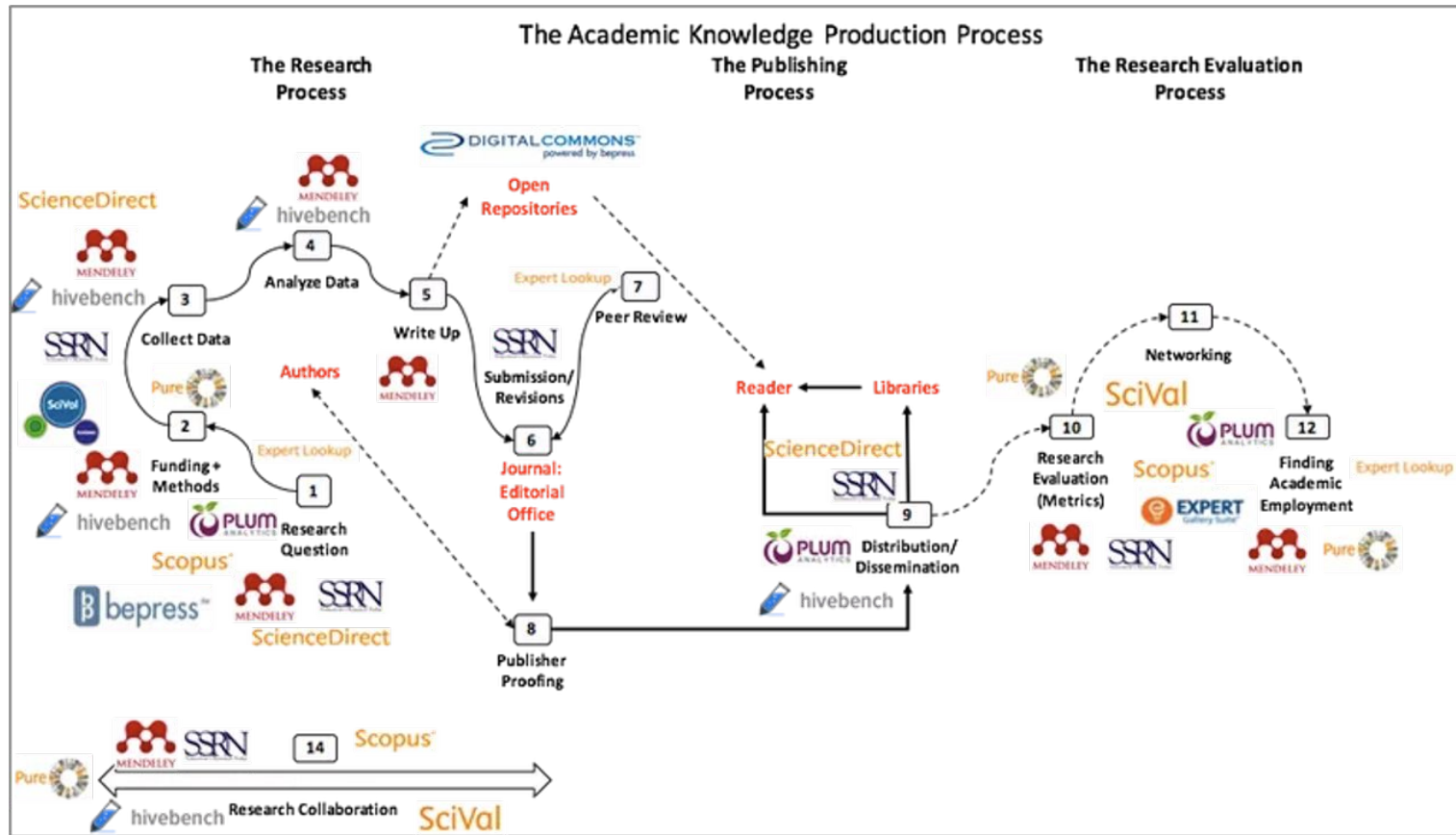
<https://www.w3.org/DesignIssues/CloudStorage.html>



Not a different story in the scholarly world...

- Dominated by a few massive publishers
- Smooth and free?
- Paywalls and transfer of copyright
- Standard APIs to register content, review, annotate, index, search, archive?
- Publishers increasingly in control of entire research cycle

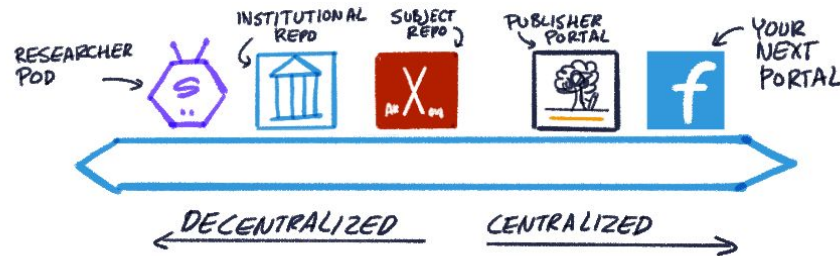


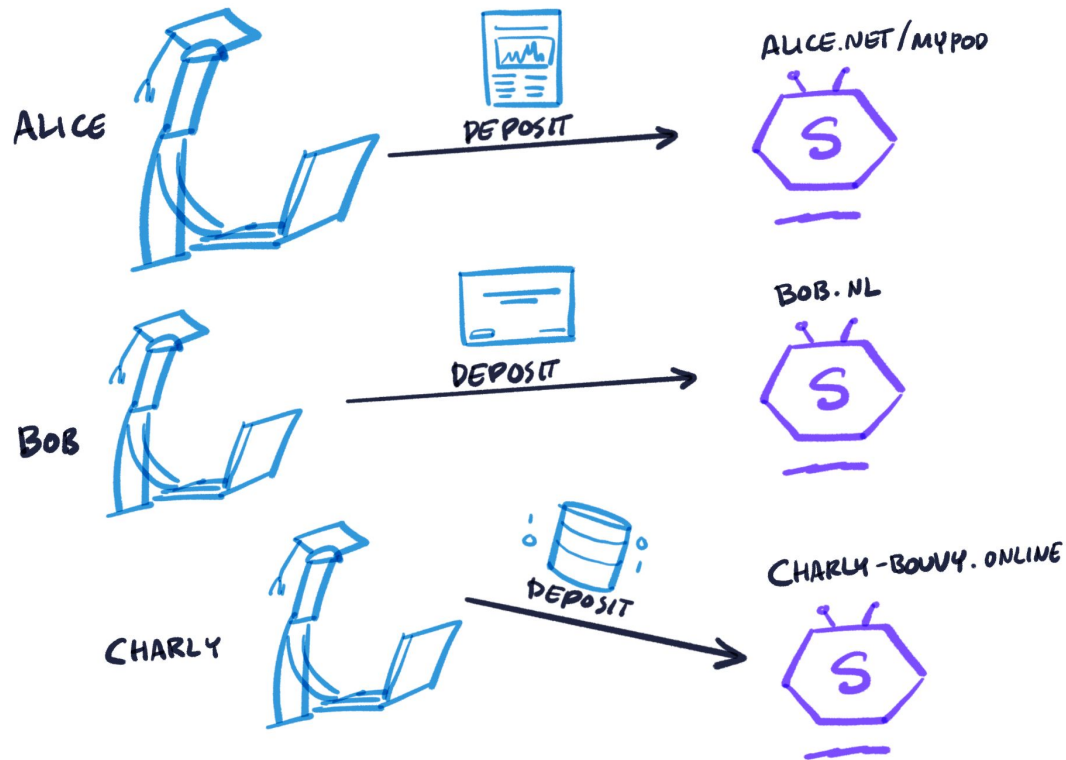


Posada, A., Chen, G. (2017) Publishers are increasingly in control of scholarly infrastructure and why we should care
<http://bit.ly/2xKRnSr>

Mellon Researcher Pod perspective

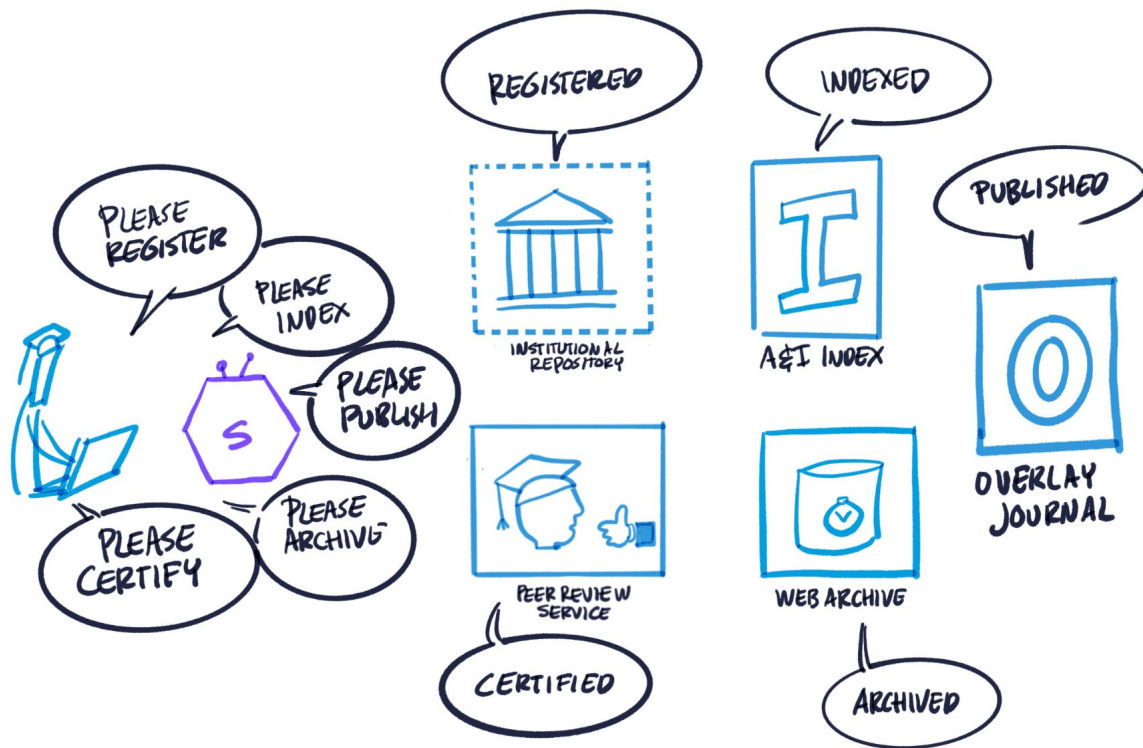
- **Decentralized** : a researcher publishes in a personal Researcher Pod
- **Decoupled** : Service Hubs provide specific added values to publications
- **Standards-based** : communication between the Service Hub and Researcher Pods
- **Technical focus** : leaving the “hard work” to others



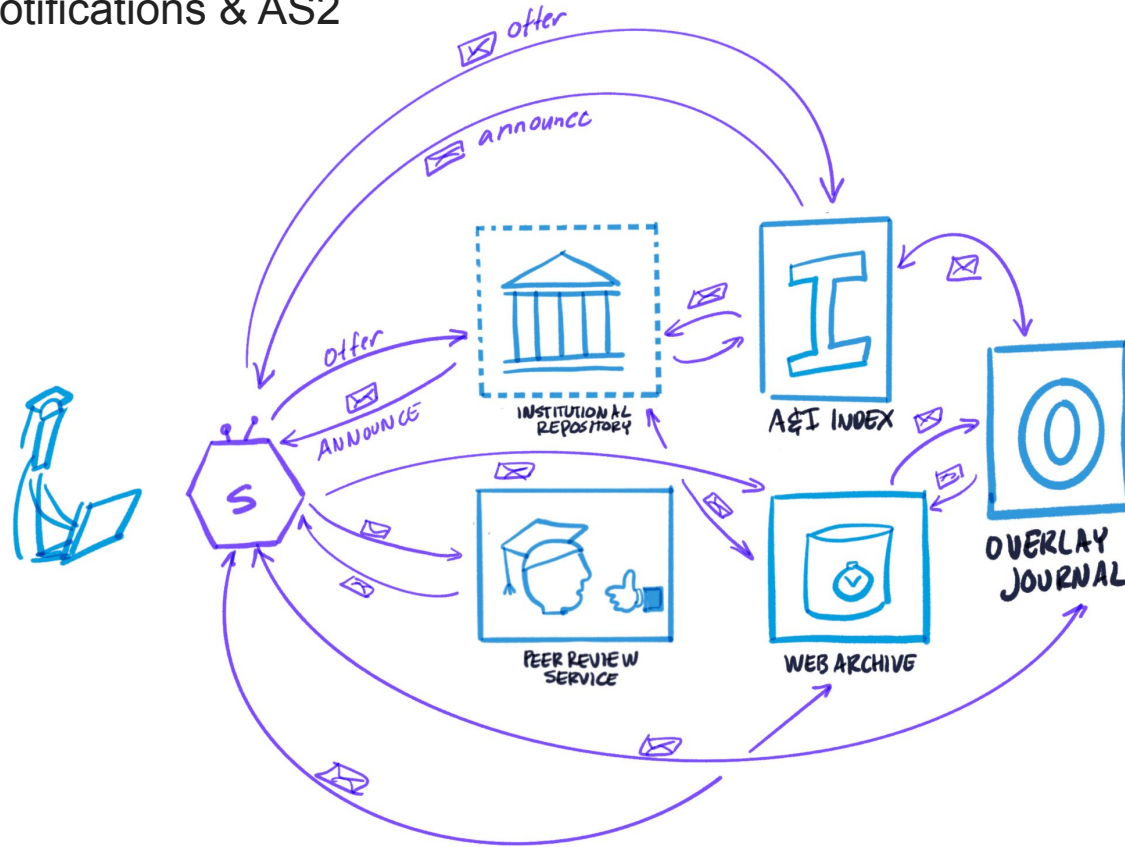


Interoperable communication between Researcher Pods and decoupled value adding Service Hubs





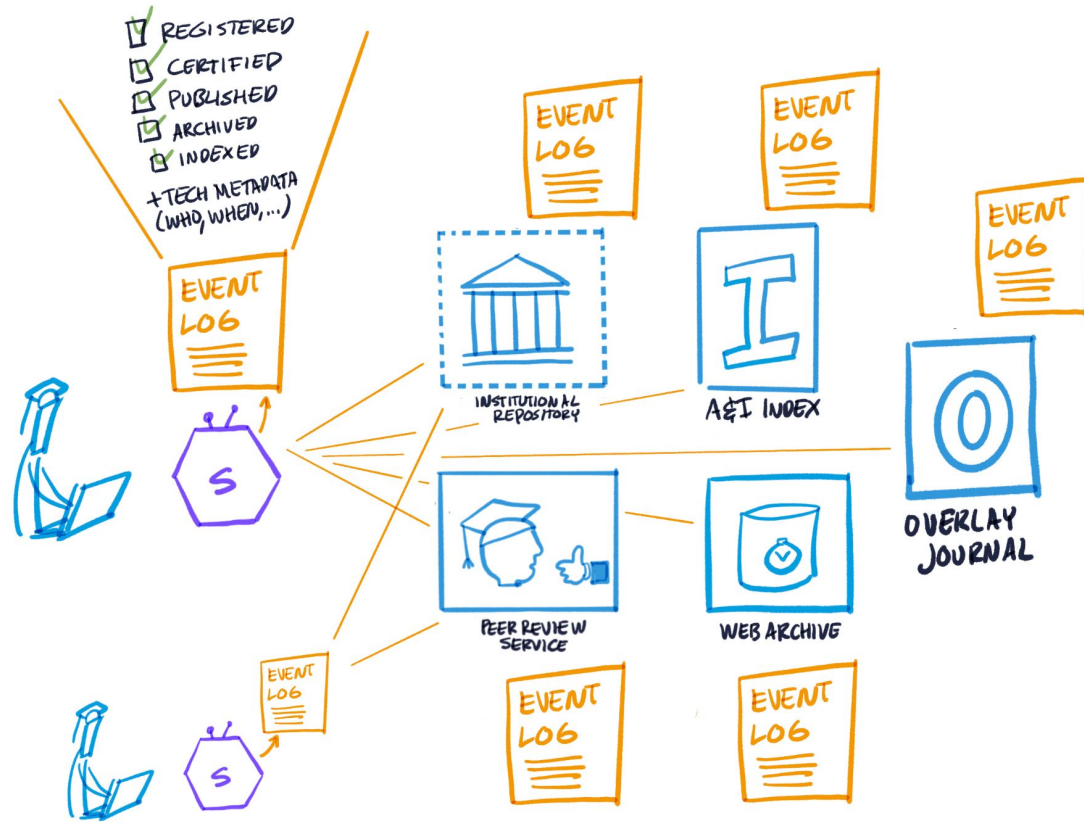
Linked Data Notifications & AS2

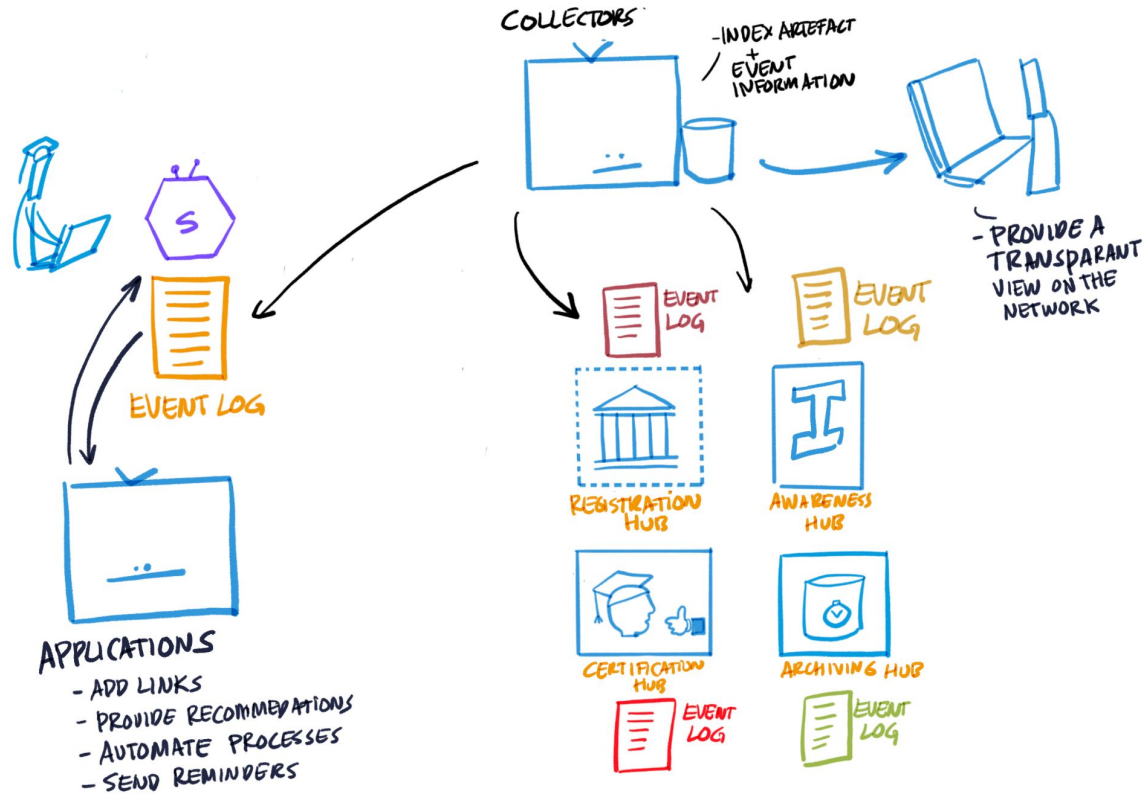


Transparent **publication** of value adding **lifecycle** events



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Mellon Specifications & Software

- <https://mellonscholarlycommunication.github.io/spec-notifications/>
- <https://mellonscholarlycommunication.github.io/spec-usecases/scholarly-scenario.html>
- <https://github.com/MellonScholarlyCommunication>
- Using different types of Solid pods worldwide (CSS, NSS, ESS + own LDP)
- Dashboard - React app
- Orchestrator - Nifi + own tooling + EYE N3 reasoner
- Demonstrators for:
 - Creating artefacts on research pods + landing pages + signposting linked metadata
 - Registration (from researcher pod into the Librecat institutional repository)
 - Archiving (from researcher pod into Robust Links)
 - Recommendation (e.g. after registration please continue with archiving step)

TWO YEARS
LATER...

I HEARD THAT ELSEVIER
IS DECENTRALIZED
NOW...

THEY CONTEMPLATE
LETTING YOU
PAY APC'S
WITH BITCOINS

THAT'S FOR
NEXT YEAR...

HOW COME?

OH.. I WAS AFRAID
YOU WOULD SAY: SELLING
PUBLICATIONS AS NFTs

PH

Questions?

Patrick dot Hochstenbach at UGent dot be

@hochstenbach

Follow the month of #Solvember on Twitter : every day a new cartoon about Solid



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