

EUROPEAN UNIVERSITY ASSOCIATION

**Open Science :
Issues and strategies at European level**

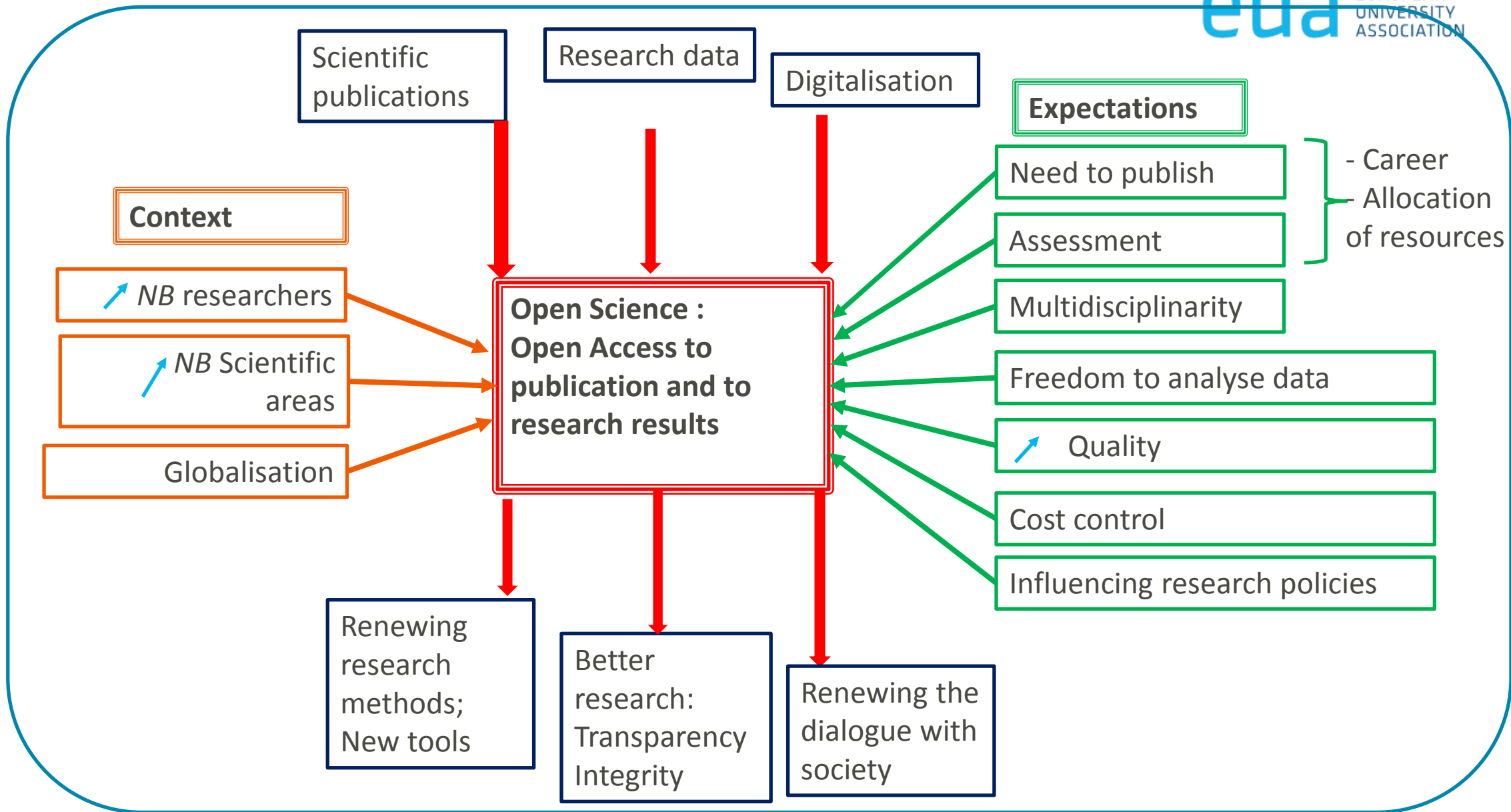
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Open Science: Ambitions, Expectations and Barriers

Regulatory framework

Financial constraints



Main causes for challenges

- Concentration in the publishing market, oligopolies and financial power:
 - Goal of maximising profits
 - Controlling high prestige journals and large research databases + steering the peer-reviewing process → Lack of transparency
 - Selling added-value services
- Assessment methods mainly based on bibliometrics (impact factor) → researchers preference for prestigious journals → strengthens major publishers

This question is partially addressed in Plan S
- Regulatory limitations:
 - Loss of authors' rights and long embargo periods → constrains deposits in open access repositories, creates uncertainty among researchers
 - Limitations of TDM

Question addressed in Plan S
- Large variability in researchers preferences according to research areas

→ difficult to find a consensual publication model

Question addressed in the implementation of Plan S
- Research data is still in its infancy and is a complex matter

Key Strategies

- Promoting Open Science
- Revisiting evaluation methods
- Revisiting publication models
- Open Access to research data
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Promoting Open Science: from activism to political action, and then to implementation

- Numerous declarations, manifestos : Budapest (2002), Leiden, Berlin (2005), San Francisco (DORA against impact factor) .
- Numerous calls for taking action: Amsterdam, Jussieu
- Experiences at institutional level (ex: Université de Liège avec Orbi)
- Evolutions at national level:
 - At legislative level (ex : Law for a « république numérique » in France, TDM, embargo duration)
 - National strategies (ex: action plan in Switzerland, national platform in the Netherlands, national plan for Open Science in France, national initiative in Finland..)
- Financial initiatives (following the Finch report in the UK, Bill Gates Foundation in the USA...) **as well as Plan S i**

Promoting Open Science: European Union

- Framework Programme:
 - Project OpenAIRE (open archive network), Foster (developing Open Science competencies),
 - Obligation to deposit in an open repository all funded publications (APCs are eligible expenses), similar approach for research data
- OSPP (Open Science Policy Platform), 8 priority actions :
 - Rewards and incentives
 - Research Indicators and Next-Generation Metrics
 - Future of Scholarly Communication
 - EOSC (need for infrastructures)
 - FAIR Data
 - Research Integrity
 - Skills and Education
 - Citizen Science

<https://ec.europa.eu/research/openscience/index.cfm?pg=open-science-policy-platform>

Promoting Open Science : Networks and associations

- Numerous networks and associations (Liber, Sparc Europe, LERU, Science Europe..)
- EUA (> 800 member)
 - Establishment in 2014 of an expert group on Open Access, Open Science, and in 2015 establishment of the HLG on Big Deals
 - Numerous political statements (EU, national governments)
 - Support to institutions and their leaders, messages to researchers, surveys and transparency promotion ..
 - Collective work (negotiators meetings)

Example of the annual EUA survey on Open Access/ Open Science

- Open Access Survey 2017-2018 (fourth wave)

<https://eua.eu/component/attachments/attachments.html?id=360>

<https://www.slideshare.net/EurUniversityAssociation/open-access-survey-key-results-2018-120535961>

- Focus on the degree of implementation of institutional policies on:
 - Open Access to research publications
 - Research Data Management
 - Open Access to research data
- Important response rate:
 - **321 institutions** (incl. 9 research organisations) from 36 countries (527 institutions in 4 years have participated at least once)

Example of the annual EUA survey on Open Access/ Open Science: conclusions on OA to research publications

- Almost 90% of surveyed institutions have an OA policy or want to develop one
- Among the universities with an OA policy in place:
 - Almost 50% mandate self-archiving of publications in the repository and 40% recommend it
 - 60% recommend that researchers publish in OA
 - 74% do not include any references to research assessment
 - 12% have mandatory guidelines on linking OA to internal research assessment, 14% recommended it
- More than 70% of surveyed universities do not have specific targets or timelines for OA
- 70% of surveyed universities monitor deposits in the repository
- However, only 40% monitor OA publishing and only 30% monitor APC costs
- Knowledge of OA matters:
 - 80% of librarians
 - 50% of university leadership
 - Drops to 20% of researchers: motivating them is one of the top 2 concerns among institutional leaders

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Revisiting evaluation methods (1)

- Evaluation of publications:
 - Quality and integrity in reading mechanisms
 - Transparency of reviewers comments: publication !
 - Open process (« Open peer reviewing ») ?
 - Other methods: pre-prints, opinions/reviews from all readers, etc.

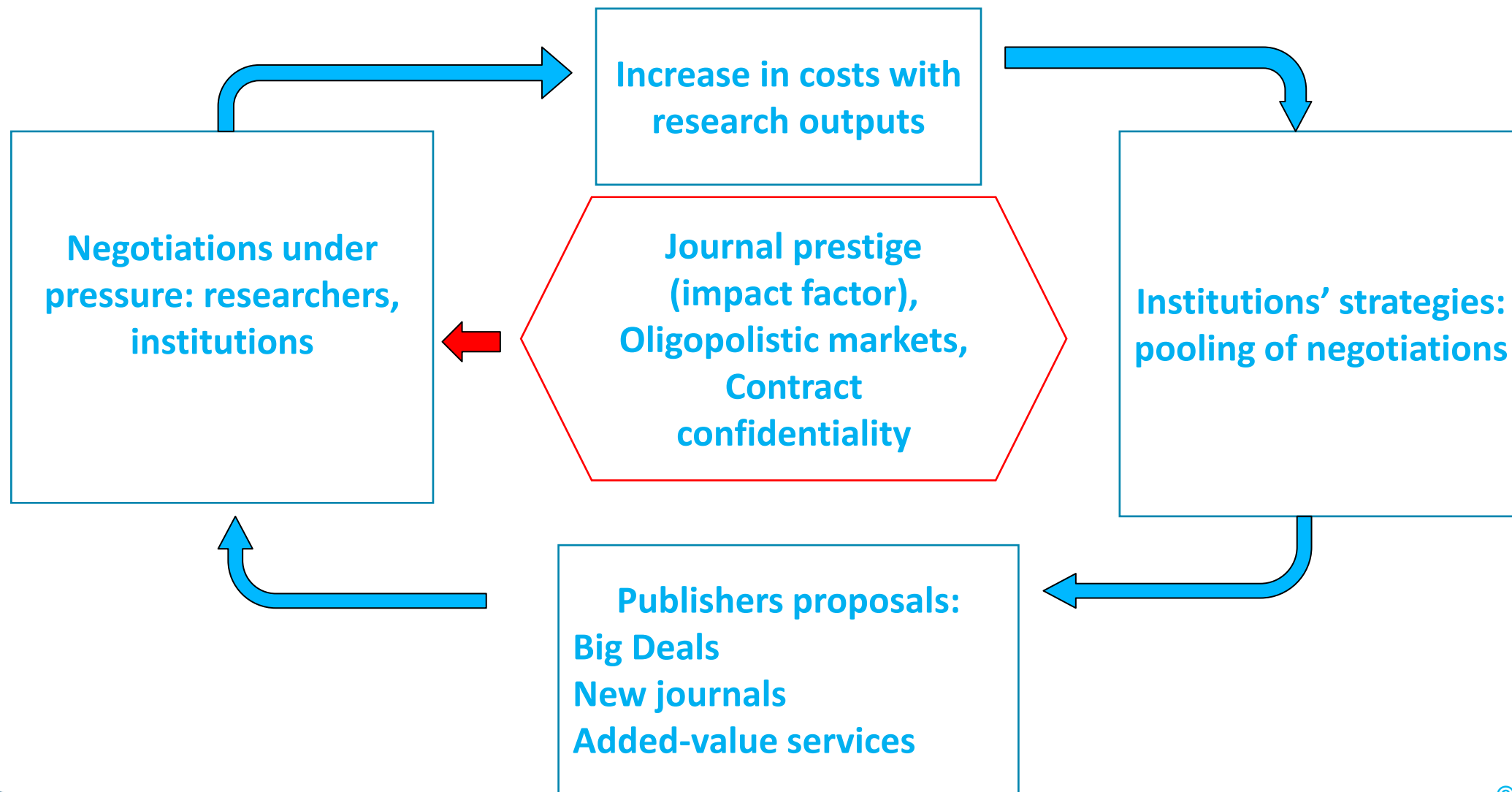
Revisiting evaluation methods (2)

- Researchers evaluation « corner stone » and major responsibility of institutions:
 - Ban the impact factor (DORA) and all quantitative indicators
 - Search for new metrics
 - Beyond metrics: searching for new criteria: reports « Rewards and Skills » de l'OSPP
 - Promoting knowledge of the number of citations of each article (Open Citation Initiative : I4OC)
 - EUA Roadmap (annual survey focusing on evaluation, collecting and promoting good practice examples, workshop, etc..)
- Evaluation of research projects, research teams and institutions: responsibility of quality agencies and research funders

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Revisiting publication models: abandoning the vicious circle



Total annual expenditure on big deals

For all subscriptions to electronic resources (including periodicals, databases, e-books) by national consortia:

Total (30 European countries) = ~ 1 025 253 055 EUR

This is a conservative figure not including:

- *Article Processing Charges (APCs)*
- *Consortia other than those participating in the Survey*
- *Individual institutional contracts with publishers*

For periodicals only in the surveyed consortia:

Total (31 consortia, representing 30 European countries) = ~ 726 350 945 EUR (average yearly increase 3.6%)

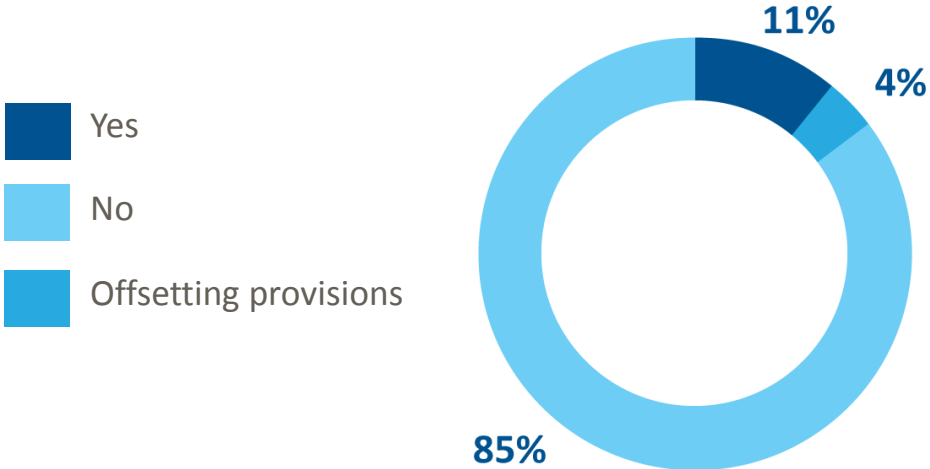
Proportion of costs covered by universities in the consortia = 519 973 578 EUR (~72%)

EUA Big Deals Survey (2017) report : Subscriptions and/or APCs?

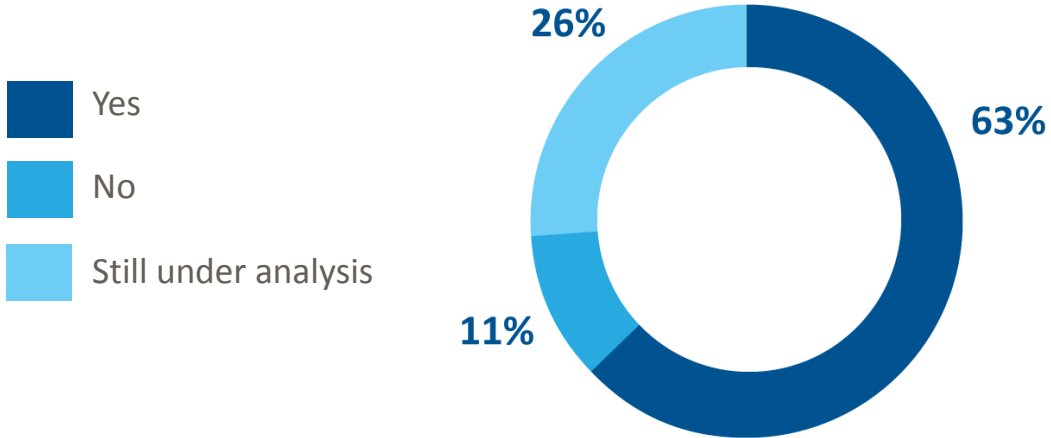
- Universities are uncertain of how to manage APCs, although gold OA is becoming an important instrument in the transition to OA:

➔ What will be the impact of Plan S?

APCs in current Big Deal contracts



Planned inclusion of APCs in future Big Deal contracts



Revisiting publication models: Which strategies?

- Promoting diverse publication models: **Need to introduce competition:**
 - Do not change from paying publishers to read to paying to publish (APC) without controlling costs → **collective negotiations ???**
 - Developing publishing platforms funded by public funds, with high quality article evaluation methods
 - Developing pre-print publications
 - Publication by article without journals being intermediaries? Needs comprehensive work on metadata and opening up citations
 - ...

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Challenges and principles

- Major evolution for the development of new research methods :
 - TDM : research, linking different databases
 - Quality, integrity : replication of experiences
- Much more complex than opening publications:
 - Great variety of data across scientific fields
 - Numerous technical and financial issues: interoperability, metadata, sustainability, costs, what to preserve in the long-term ..
- When can it be open?
 - As open as possible, as closed as necessary
- A major principle:
 - **FAIR : Findable, Accessible, Interoperable, Reusable**

EUA annual survey on Open Access/ Open Science : conclusions on OA to research data:

- An area still in its infancy:
 - 20% of institutions have a policy on research data management (RDM)
 - 13% have a policy on open access to research data
 - 40% indicate they are developing such policies
 - Only 40% have created a data protection officer position
- 70% - 80% of institutions indicated they lacked human resources and skills (legal, technical, financial...)
- Waiting for guidelines and support:
 - Creating infrastructures
 - Motivating researchers, links with assessment ..

Implementation

- Numerous experiences at institutional level:
 - By fields, including sub-disciplinary fields.
 - Development of research data management plans
- Initiatives of the EU:
 - Pilot programmes in Horizon 2020, then scaling up
 - EOSC
- Research Data Alliance, RDA :
<https://www.rd-alliance.org/>
- EUA actions:
 - Recommendations on Open Access to research data:
<https://eua.eu/component/attachments/attachments.html?id=500>
 - Follow-up of the annual survey on Open Science

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- Plan S (initiative of the EU and Science Europe, 4 september 2018) : all publications immediately available in OA by 2020. https://en.wikipedia.org/wiki/Plan_S
 - 11 signatories + EU (Now 16 signatories..)
 - 10 measures : Authors' rights (CC-BY), publishing platforms, OA Infrastructures, costs borne by research funders, capping APCs, transparency, deadline: 1 January 2020, long-term archival, banning hybrid journals, monitoring the uptake of these obligations.
 - Guidelines

Plan S : An effective initiative for the implementation OA ?

- Numerous points of view:
 - Progress: coordinated approach across a continent, virtuous practices, political commitment, but is it possible in 15 months?
 - The difficulties and the dangers:
 - Risk of favouring the gold route
 - Not breaking up collective negotiations
 - Avoiding to isolate Europe from the big journals
 - Need to combat predatory journals
 - And still many open questions :
 - How to set up and finance alternative publishing models ?
 - How to manage CC-By licences and third party material included in the publication ?
 - What is a transformative agreement ?
 - ..

<https://education.newstank.fr/fr/article/view/131831/science-ouverte-penser-plan-jean-pierre-finance.html>

- The perspective of universities on Plan S
 - EUA has expressed its support for the objectives of Plan S, but cautions that concerns expressed by different stakeholders need to be taken into consideration to gather the support of different stakeholders in the scientific community
 - Plan S should allow for diverse implementation approaches to ensure compatibility with national or institutional policies and variation of disciplinary practices
 - The costs of the new OA scholarly publication system need to be financially sustainable
 - The following areas would benefit from further clarification:
 - Copyright
 - Research assessment
 - Routes to compliance
 - Cost control
 - Repositories

As a conclusion

OA et OS : a true revolution in the methods and practices of scientific research that:

Opens many routes, but is far from being stable in terms of:

- the economic model,**
- technical issues,**
- monitoring,**
- research assessment,**
- ..**

Requires careful monitoring and control:

- from research communities**
- from institutions**
- from national governments**
- at the supra-national level: leading position from**

the EU

Major issues

- **Cost control**
- **Scientific steering**
- **Scientific quality and excellence**
- **Adapted regulations**
- **Pushing the boundaries of the scientific method**

**Thank you for your attention.
And now, let's go into more detail in
Plan S**