

# ANALYSIS

Of the responses to the Knowledge Sharing questions  
in the online Public Consultation  
on the Future of the European Research Area

# The Questions

## **KSH2. How should data and publications resulting from publicly funded research be shared?**

### **(a) Raw data resulting from publicly funded research should be made more readily accessible:**

- *Agree / Disagree / No opinion*
- If in agreement, how? Specify (Comment)
- If in disagreement, why not? Specify (comment)

### **(b) Peer-reviewed scientific publications resulting from publicly funded research should be accessible without charge:**

- Agree/Disagree/No opinion
- If in agreement, when?
  - As soon as they are published
  - After 6 months from publication (to allow the publishers to recover return on investment)
  - After 12 months from publication (same reasons as above)
  - Other (specify)

### **(c) National and regional publicly funded research data should be made available in:**

- Local / National databases
- European level databases

### **(d) National and regional publicly funded scientific publications should be made available in:**

- Local / National databases / repositories
- European level databases / repositories

### **(e) EU funded (Framework Programme, European Institute of Technology etc) research data should be made available in:**

- Local / National databases
- European level databases

### **(f) EU funded (FP, EIT etc) scientific publications should be made available in:**

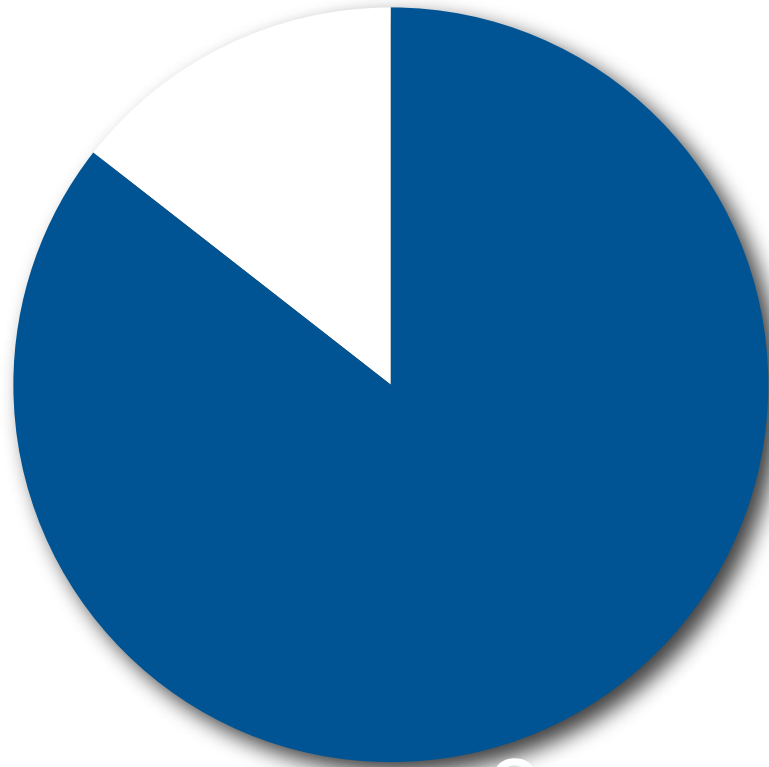
- Local / National databases / repositories
- European level databases / repositories

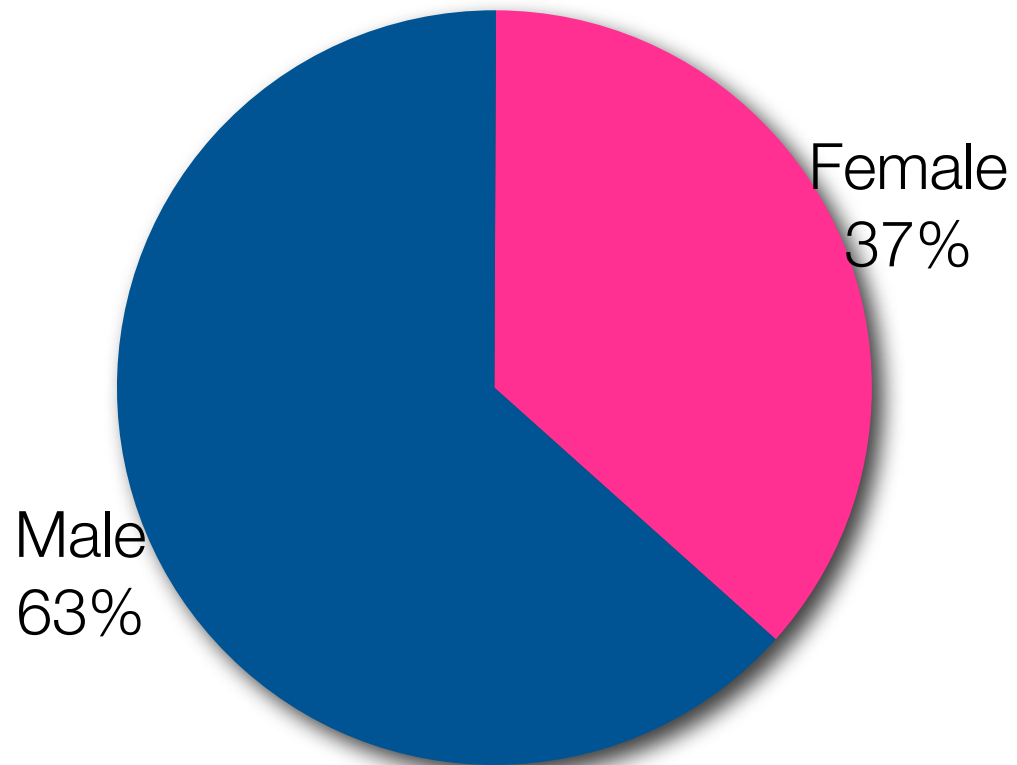
## Three Themes:

1. The ready accessibility of data resulting from publicly-funded research;
2. The free accessibility of publications resulting from publicly-funded research, and when;
3. The level on which any data or publication repositories should be available (national level or EU-level).

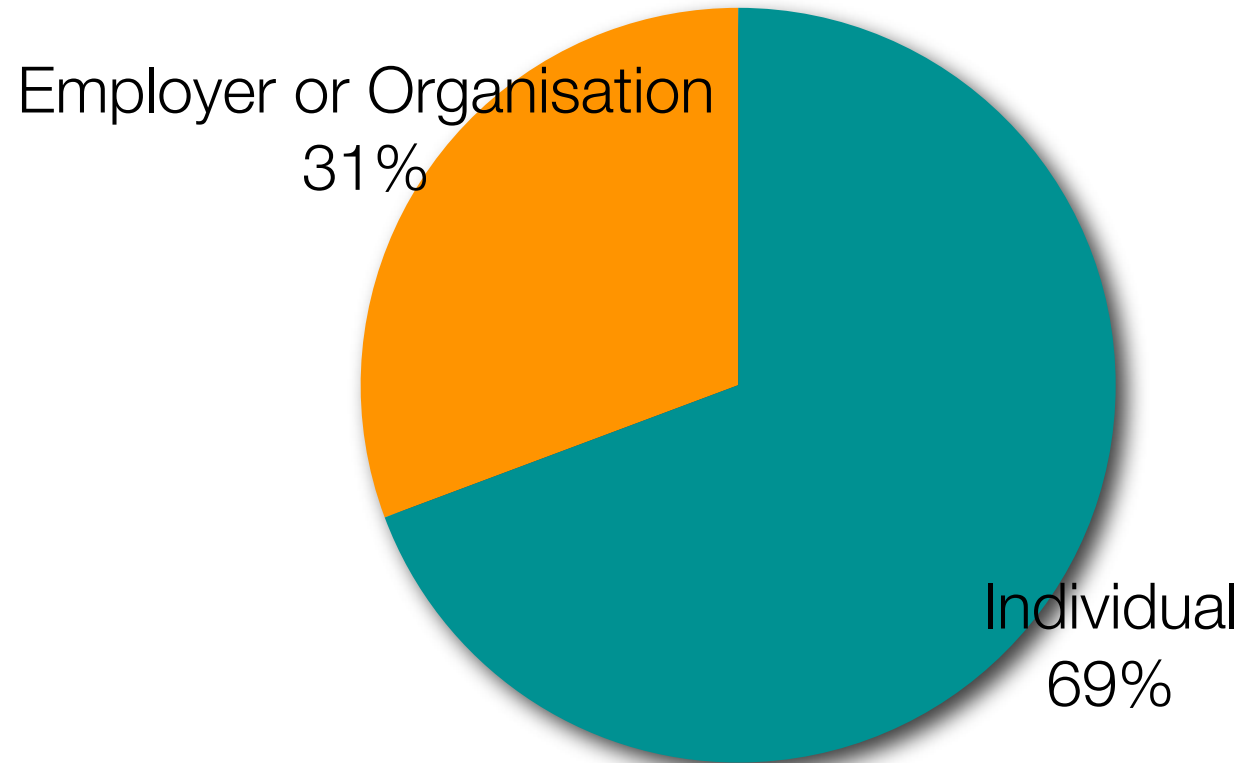
# The Sample

692 responses in total;  
Responding to Knowledge  
Sharing Questions: 86%



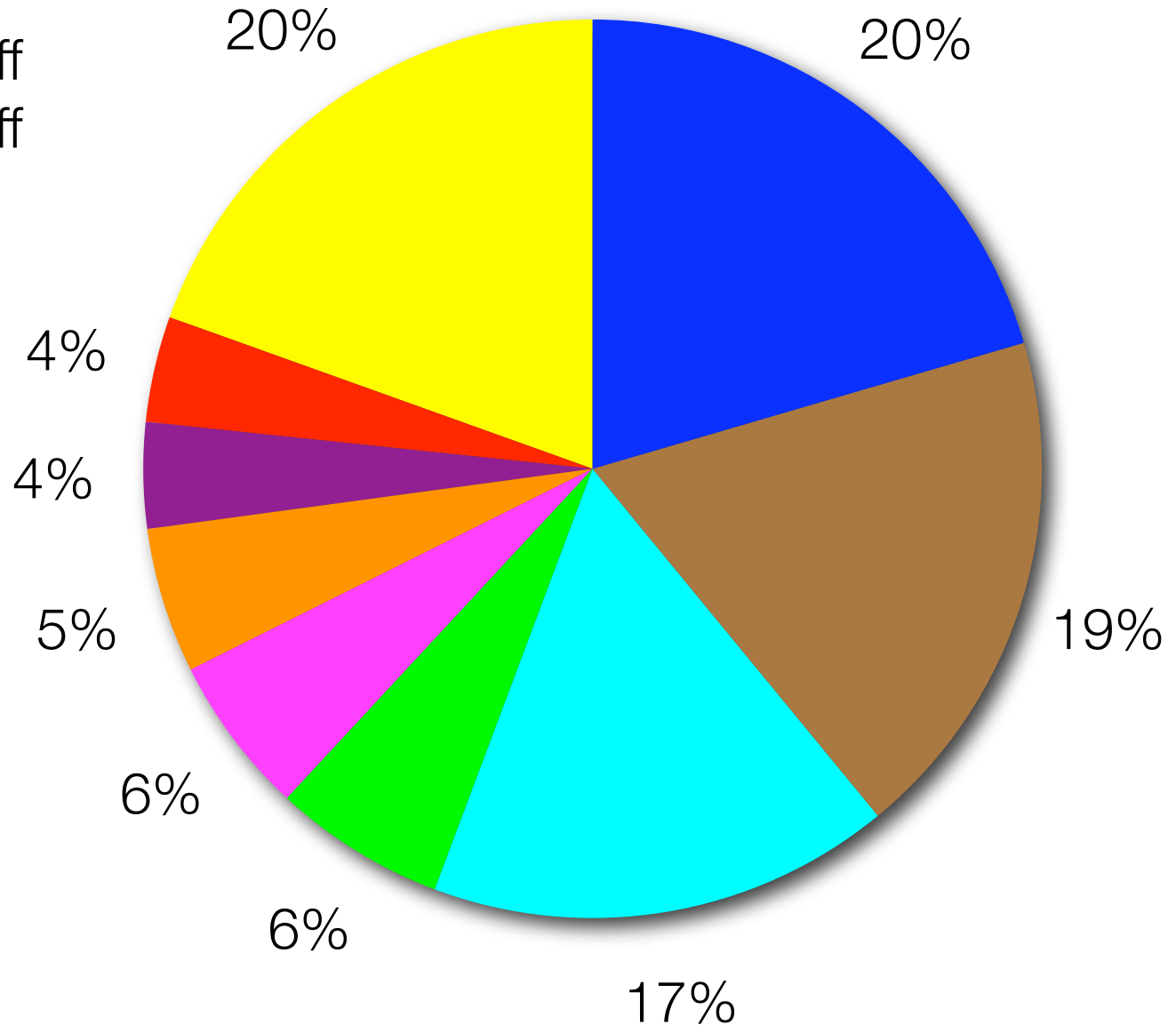


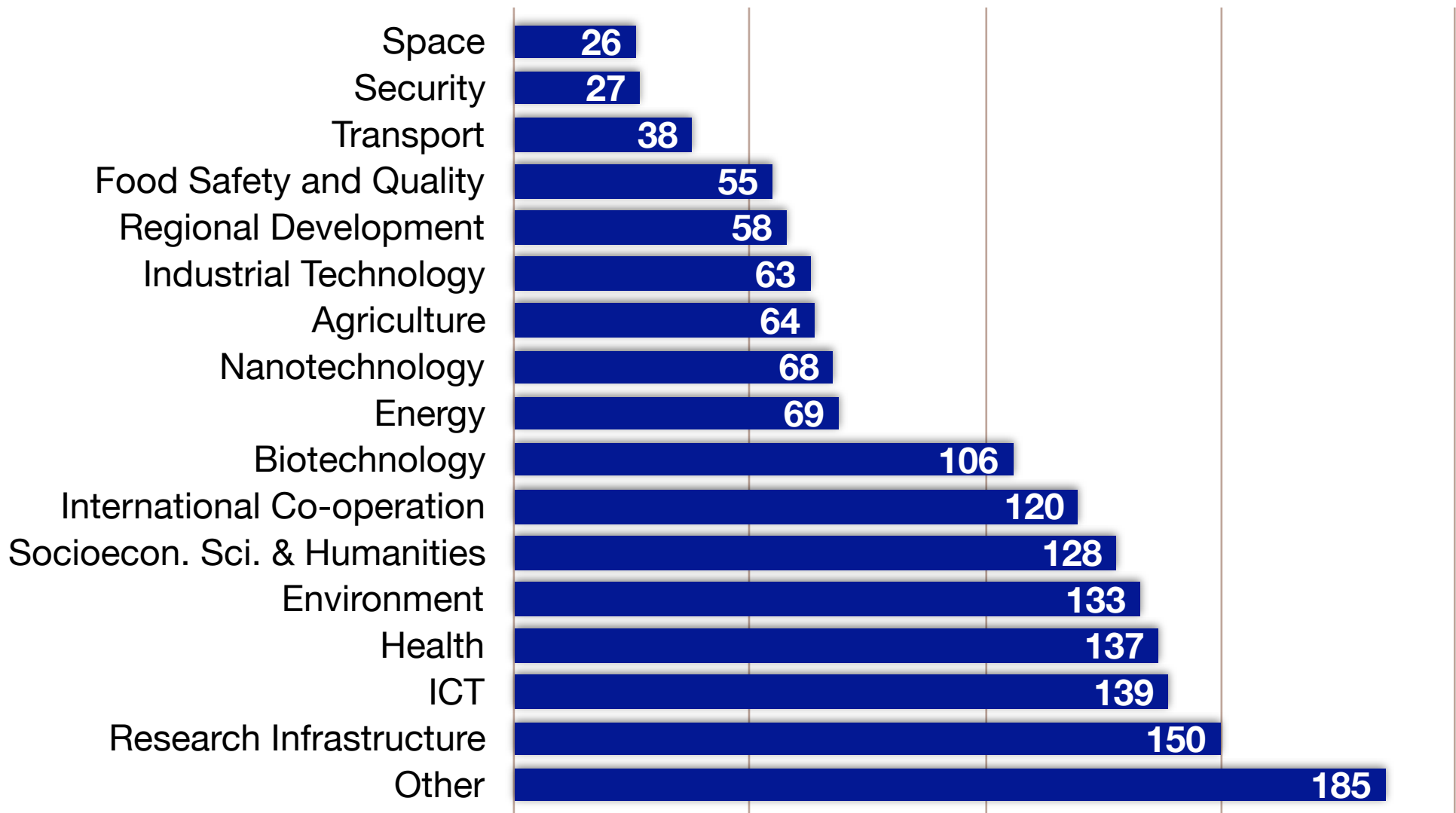
# Response on behalf of:



*Nature of Organisations:*

- Non-Gov't, Not-for-Profit
- Higher Education Institute (HEI)
- Public Sector Research (non-HEI)
- Governmental body
- Commercial > 250 staff
- Commercial < 250 staff
- Research Funders
- Associations
- Other

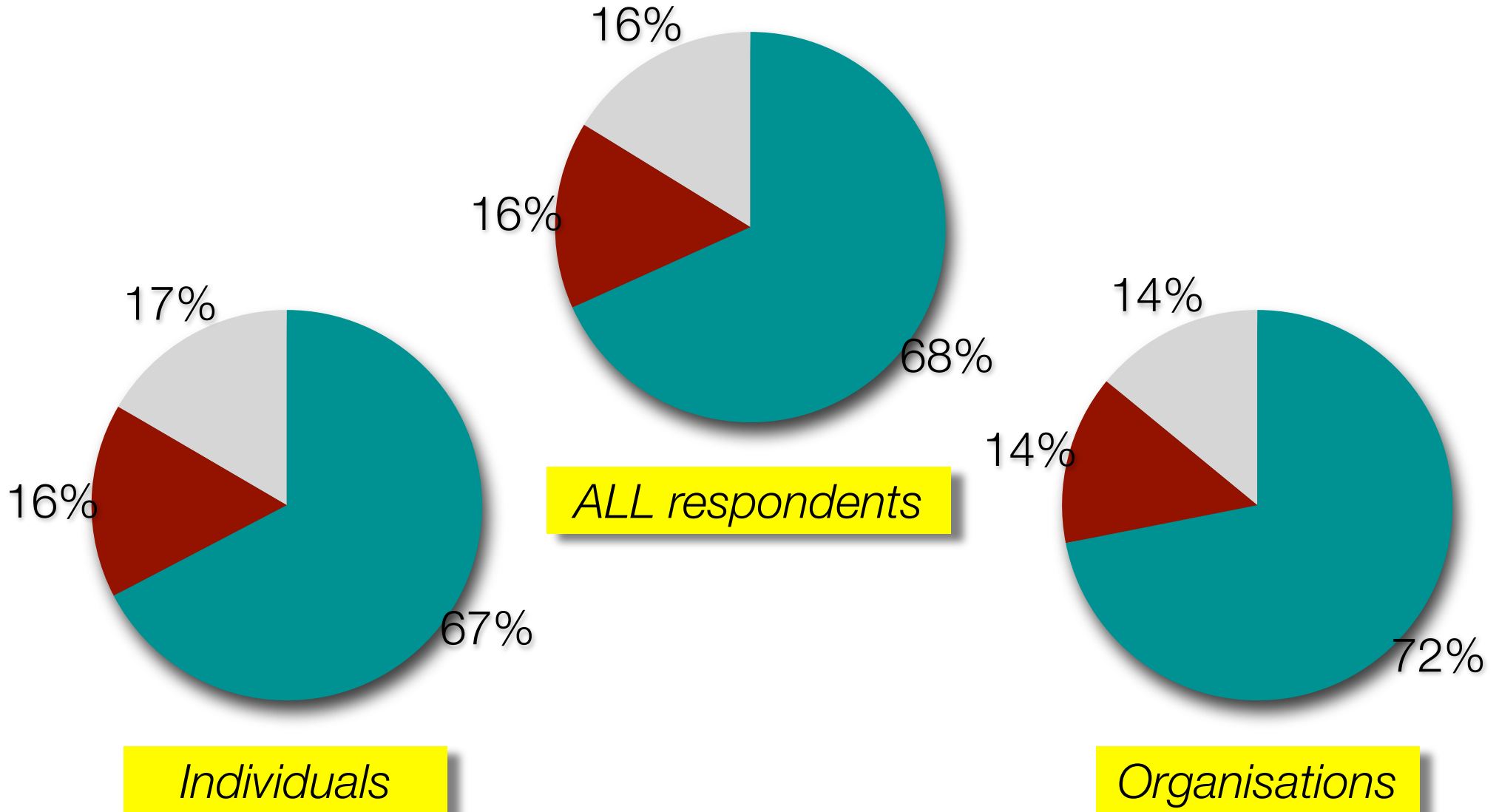




# Accessibility of Scientific Data

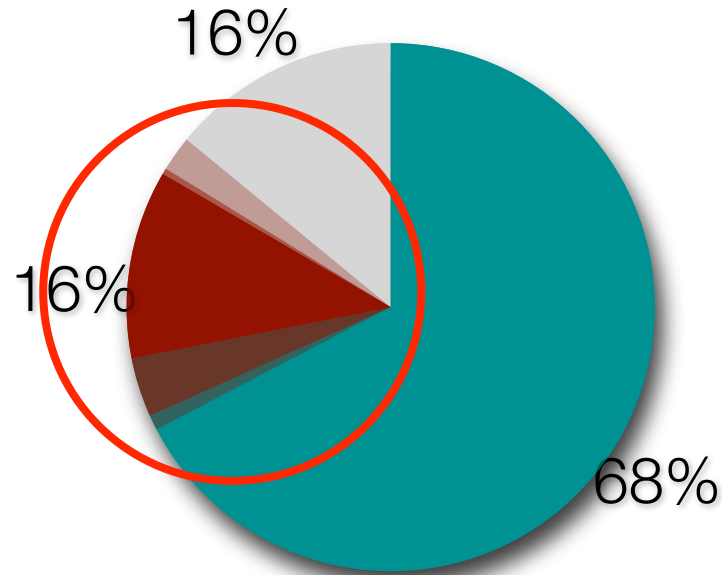
Raw **data** resulting from publicly funded research should be made more readily accessible

- Agree
- Disagree
- No opinion



Raw **data** resulting from publicly funded research should be made more readily accessible

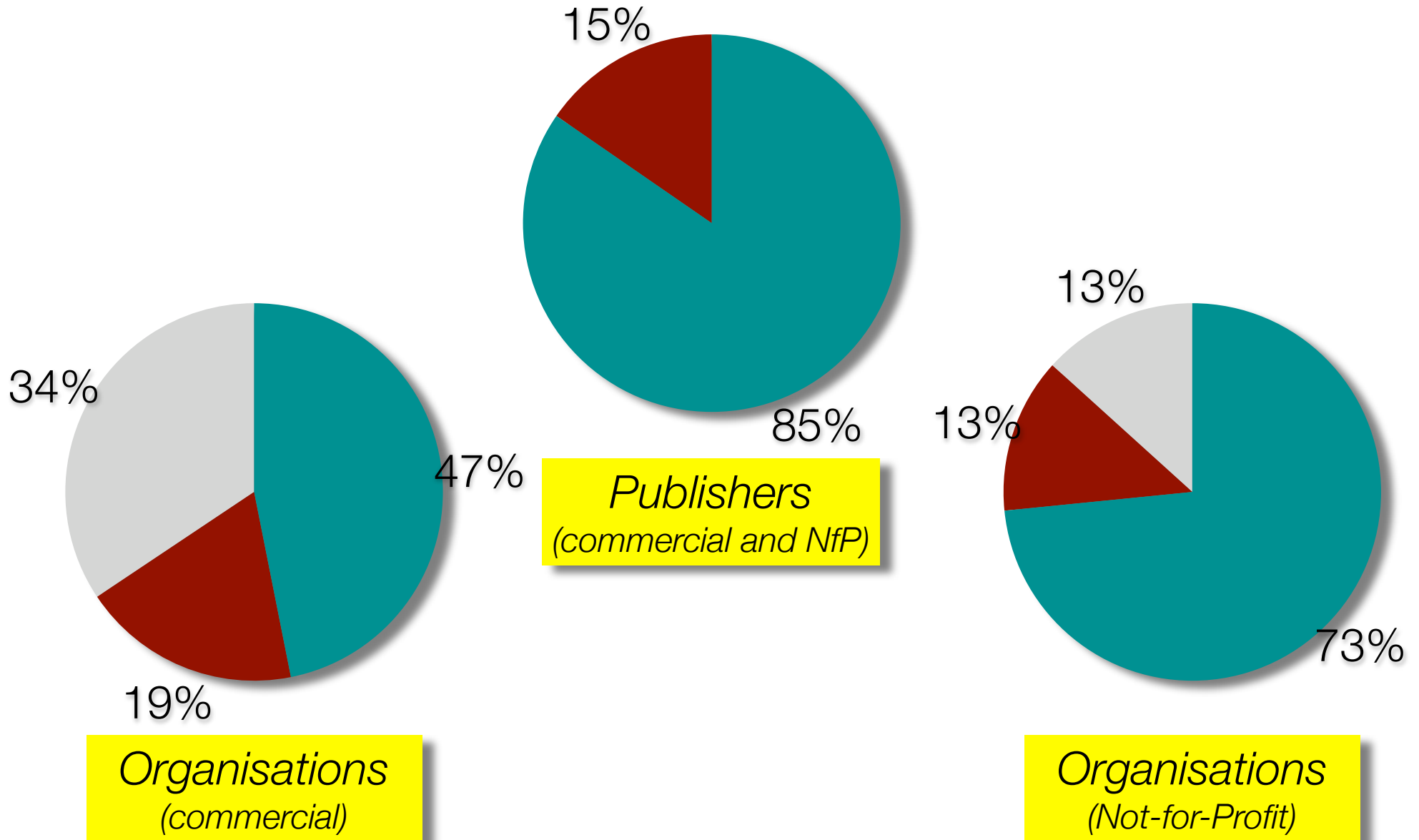
- Agree
- Disagree
- No opinion



*superimposed*

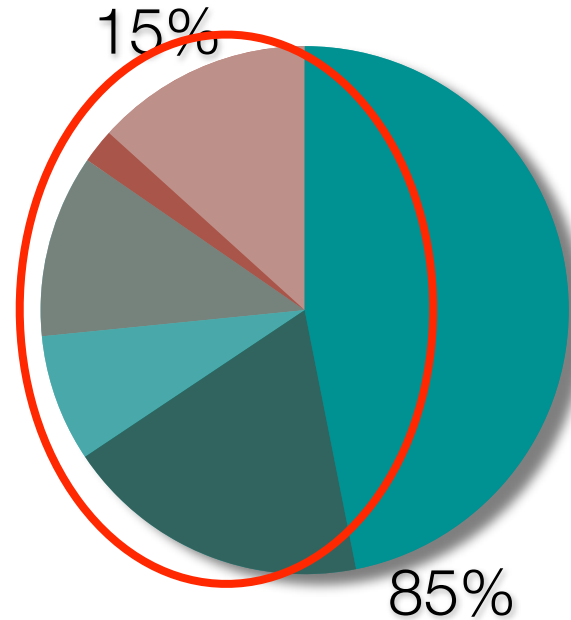
Raw **data** resulting from publicly funded research should be made more readily accessible

- Agree
- Disagree
- No opinion



Raw **data** resulting from publicly funded research should be made more readily accessible

- Agree
- Disagree
- No opinion



*superimposed*

## Some comments made:

“The nature of and arrangements for data publishing are currently very diverse and immature. Models for quality assurance, stewardship and access to data are urgently needed. The EC should make this a priority.”

*“Institutions should cooperate in creating databases and other infrastructures to ensure accessibility of research results.”*

“Traditional publishers and learned societies may collaborate with researchers and funders to find the best way to link data to formal published research papers, and to manage the costs of hosting and access.”

*Quite frequently comments were also made concerning the notion that free availability of raw data could lead to misinterpretation, even chaos. The caution was also expressed that “Access to raw data must not interfere with patenting.”*

Even though the question only ever was about data being made “more readily accessible”, I infer from the comments that it seems to have been interpreted by some – perhaps by many – as public availability without barriers.

***Recommendation:***

***It would be good to define what exactly is meant by raw data and what more readily accessible means, with possibly a formulation of a set of criteria for full access. Perhaps a task force could be set up to achieve this, or groups already working on these issues could be identified.***

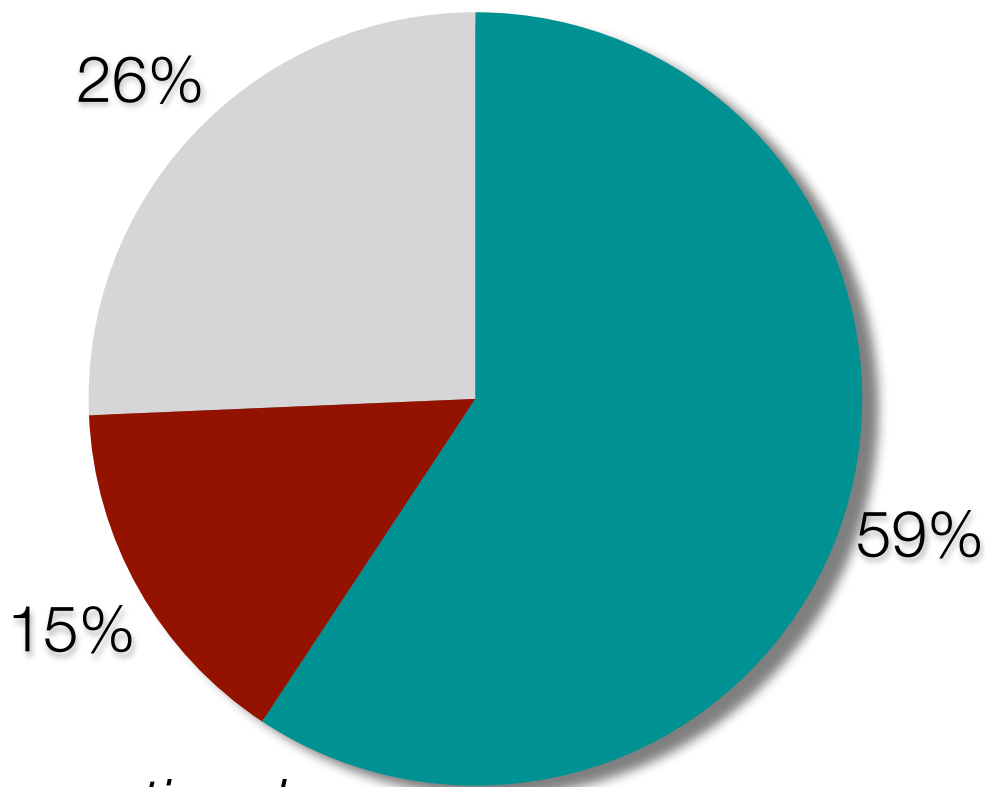
Where should  
Scientific Data  
be available?

**DATA** resulting from regional or nationally funded research should be made available in local or national databases

ALL respondents

- Agree
- Disagree
- No opinion

*Funding: regional or national*



*Databases: local or national*

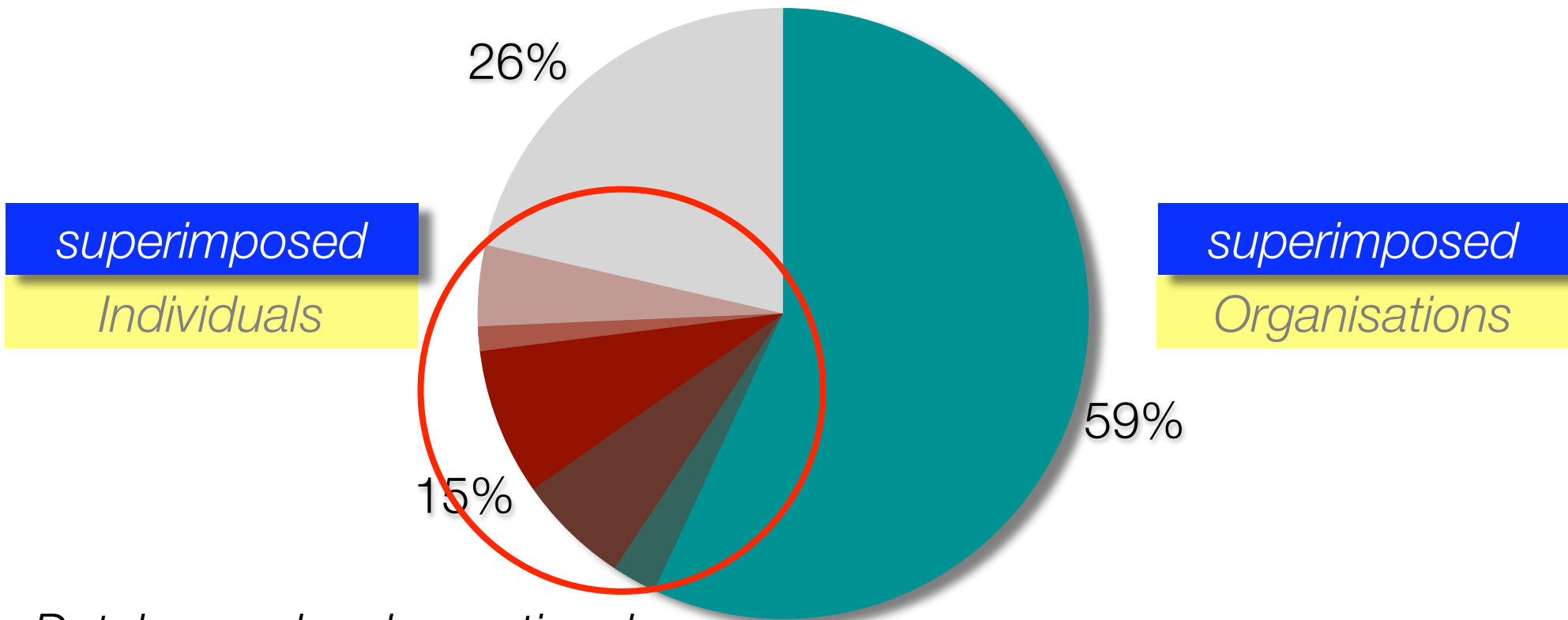


**DATA** resulting from regional or nationally funded research should be made available in local or national databases

*ALL respondents*

- Agree
- Disagree
- No opinion

*Funding: regional or national*



*Databases: local or national*

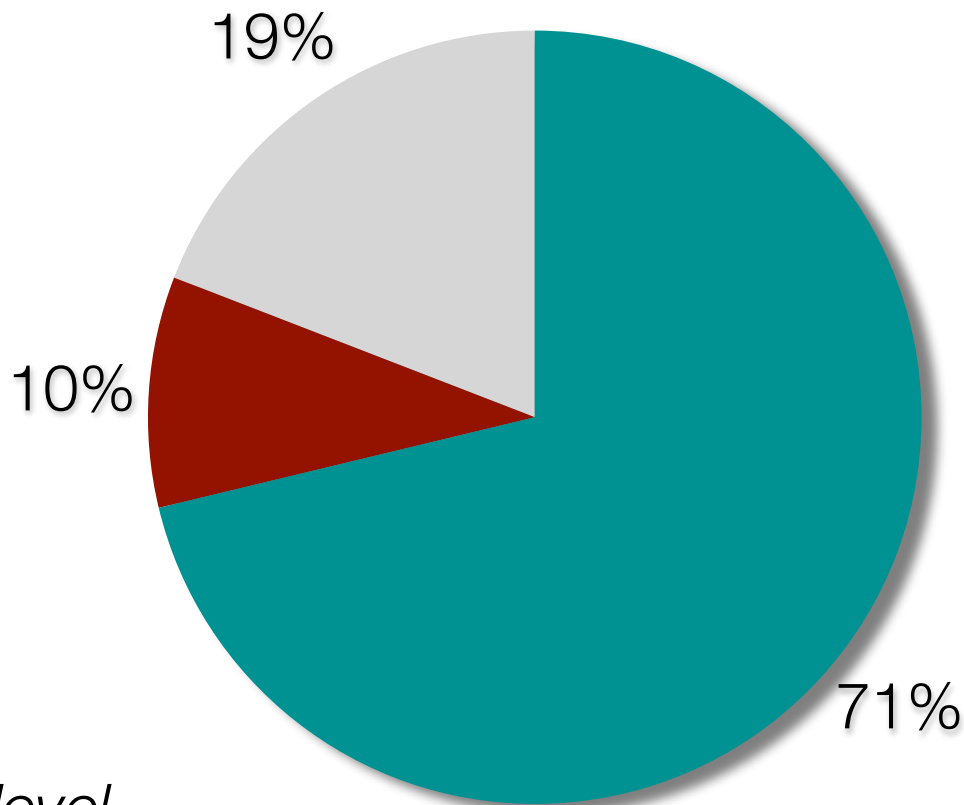


**DATA** resulting from regional or nationally funded research should be made available in EU-level databases

ALL respondents

- Agree
- Disagree
- No opinion

*Funding: regional or national*



*Databases: EU-level*

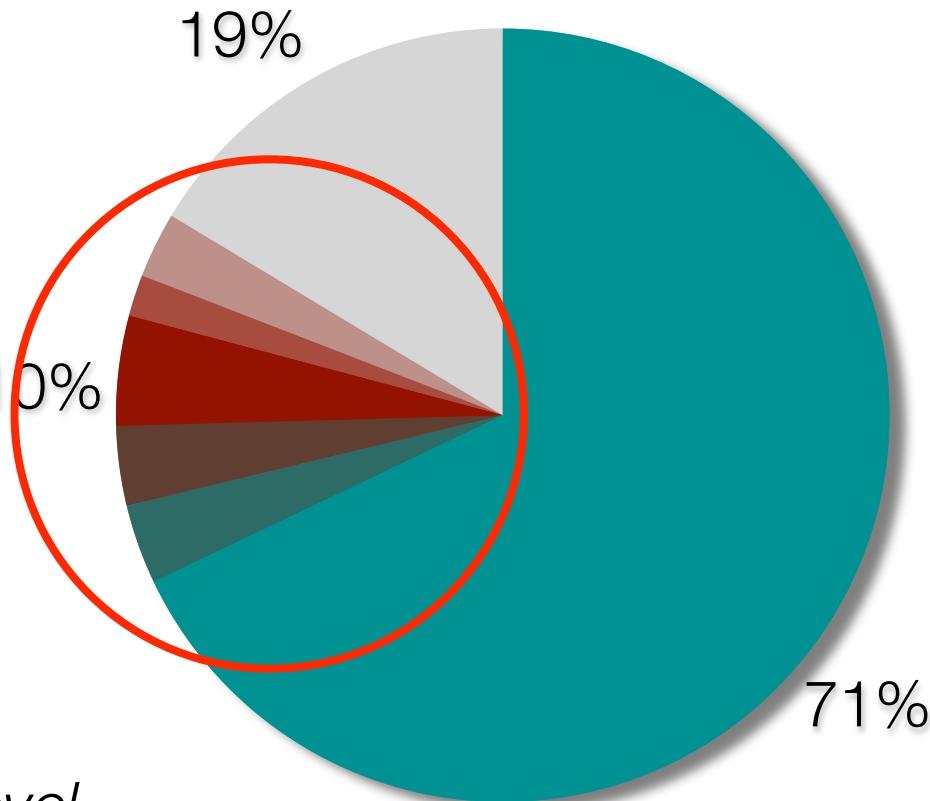


**DATA** resulting from regional or nationally funded research should be made available in EU-level databases

*ALL respondents*

- Agree
- Disagree
- No opinion

*Funding: regional or national*



*Databases: EU-level*

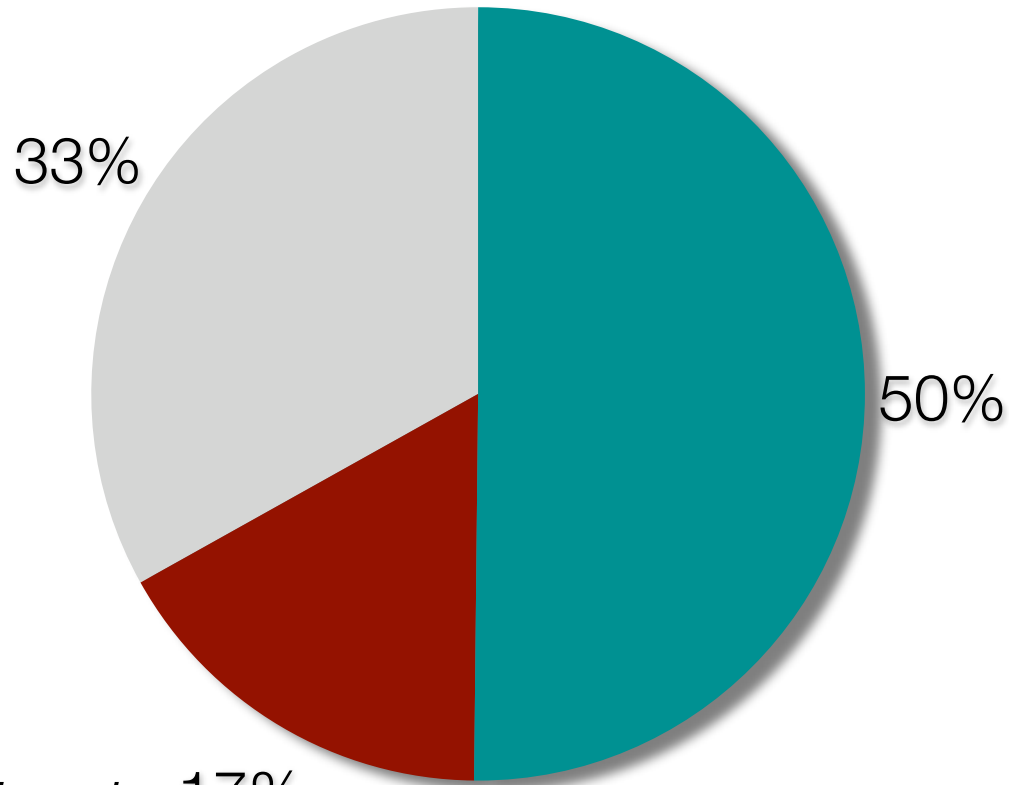


**DATA** resulting from EU funded research should be made available in local or national databases

ALL respondents

- Agree
- Disagree
- No opinion

Funding: EU



Databases: local or national 17%

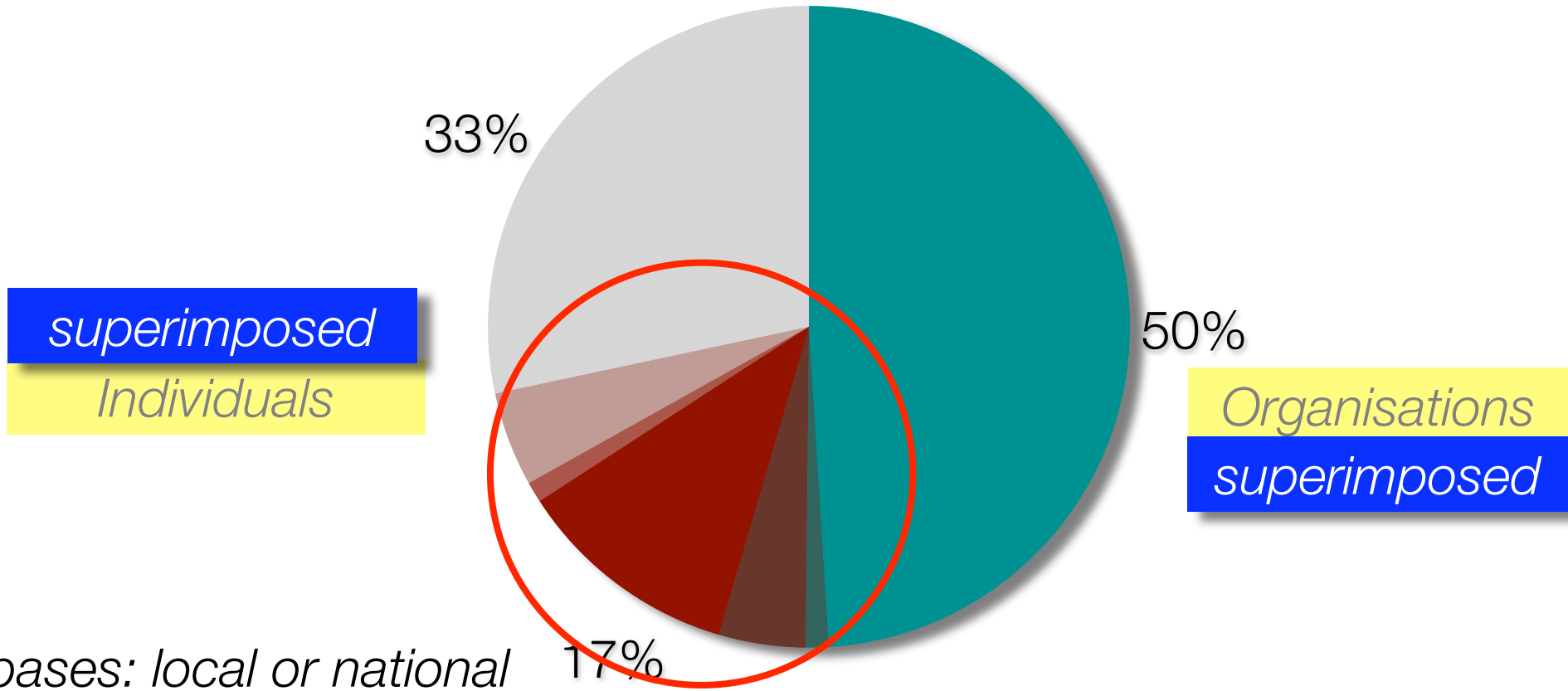


**DATA** resulting from EU funded research should be made available in local or national databases

*ALL respondents*

- Agree
- Disagree
- No opinion

*Funding: EU*



*Databases: local or national*

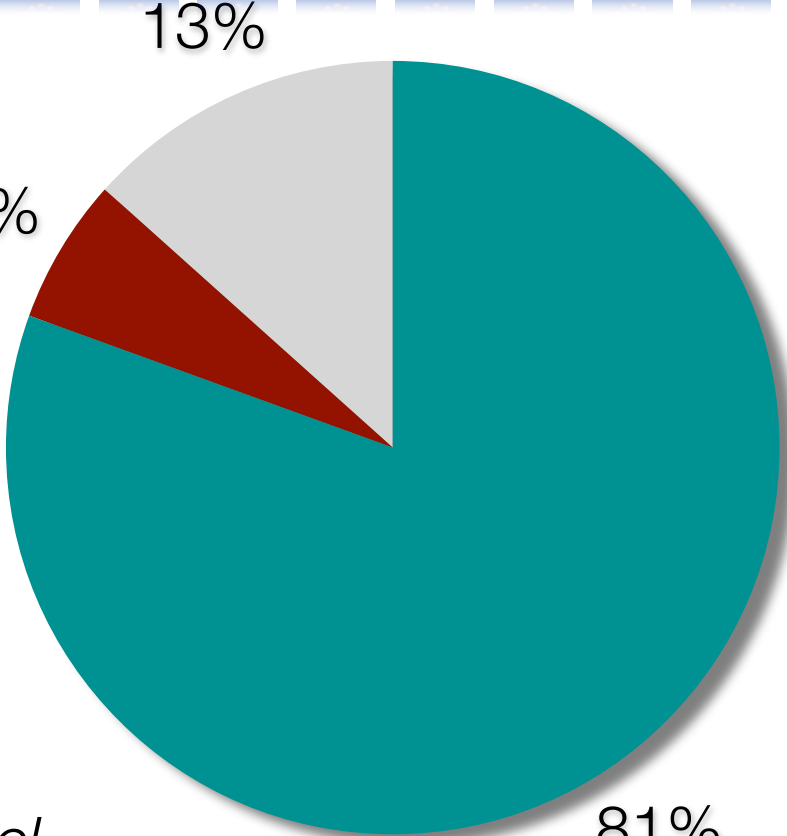


**DATA** resulting from EU funded research should be made available in EU-level databases

*ALL respondents*

- Agree
- Disagree
- No opinion

*Funding: EU*



*Databases: EU-level*



**DATA** resulting from EU funded research should be made available in EU-level databases

*ALL respondents*

- Agree
- Disagree
- No opinion

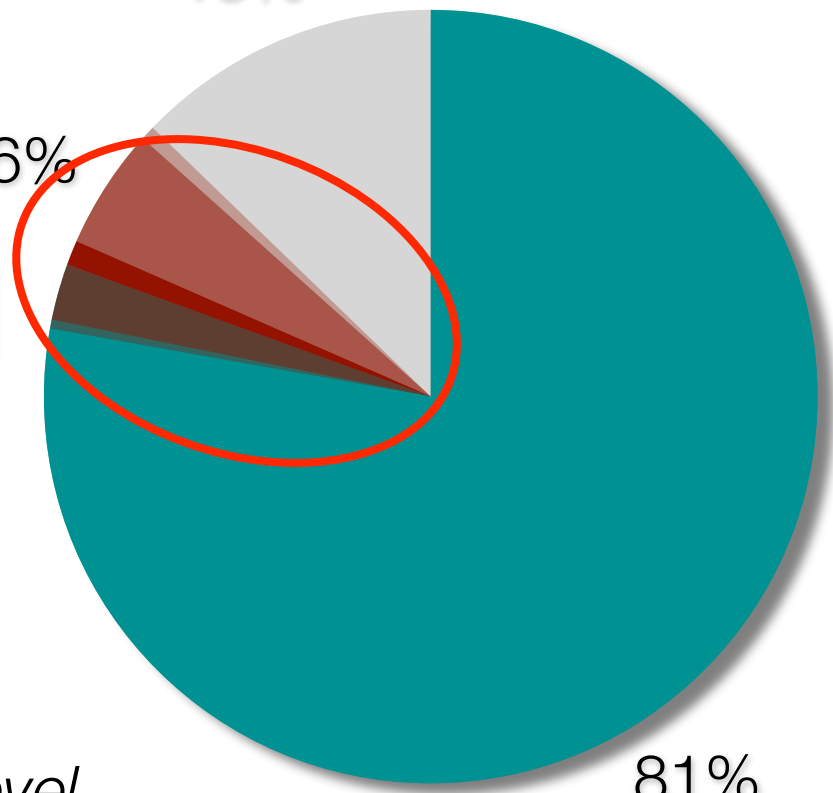
*Funding: EU*



13%

6%

*superimposed*  
*Individuals*



*superimposed*  
*Organisations*

*Databases: EU-level*

81%



# Where to Deposit Data: Some Comments from Respondents

“It could be made available anywhere, as long as the database conforms certain requirements - like OAI-PMH compatibility. It would be unwise requiring either Local / National databases or European level databases - the most appropriate solution could be different for different disciplines, etc. And as long as these databases are inter-operable, share certain standards, they could be anywhere, and there could be any number of them.”

*“The WEB is global, any differentiation between national, regional or EU is actually not very intelligent. Better: data bases and repositories should compete on a global level for users.”*

“The use of local databases/repositories increase researcher commitment to deposit (within work flows of the organisation) and there are protocols to provide a pan-European view.”

*“Publicly funded research data should be made available at European level but also at national/local level – this would make it easier and quicker to access for stake holders.”*

“Data should be deposited somewhere - institutional or project archive, international/european/national general or subject specific data center, or at the journal where the results are published. In the research papers the location of the data should be indicated. Each data archive should publicize its archival strategy, and access policy.”

*“There is no need for separate European databases if world-wide databases already exist.”*

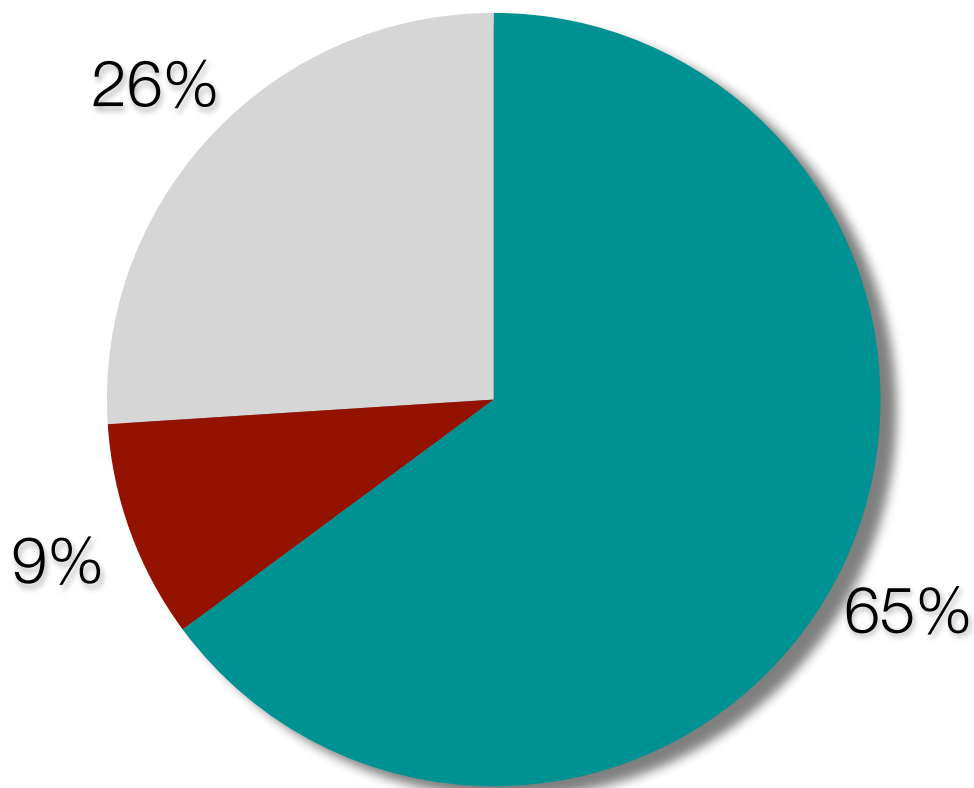
“The question is not really where the database is hosted, the question is who will guarantee its long term sustainability (and pay for this).”

# Accessibility of Peer-reviewed Scientific Publications

Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge

*ALL respondents*

- Agree
- Disagree
- No opinion



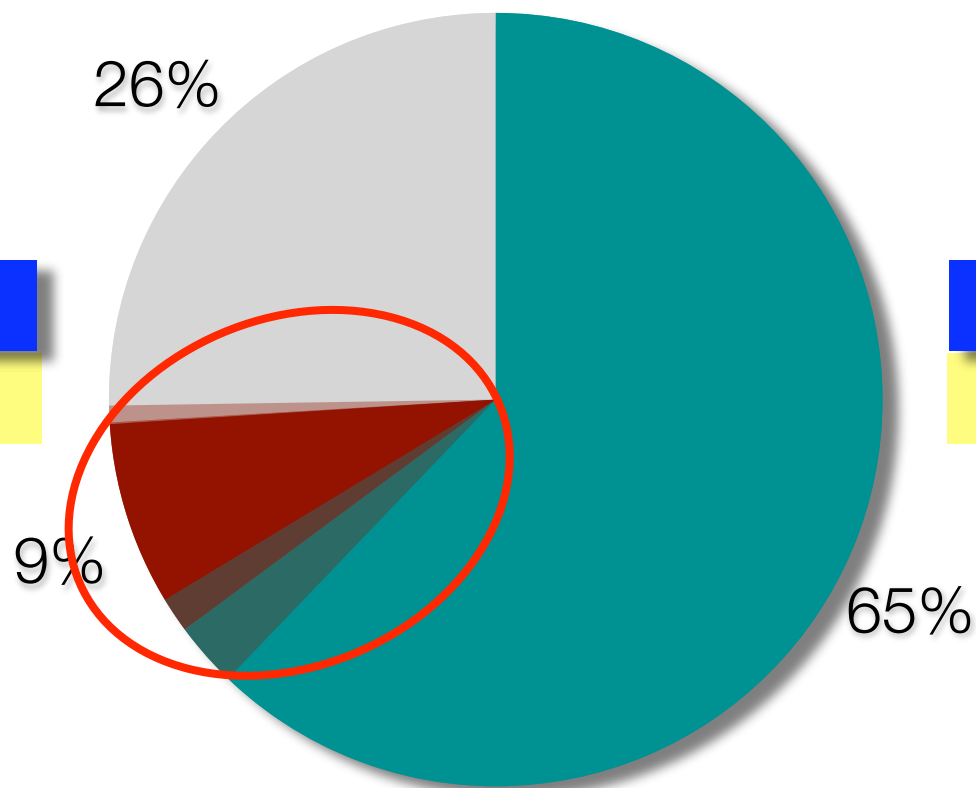
Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge

*ALL respondents*

- Agree
- Disagree
- No opinion

*superimposed*  
Individuals

*superimposed*  
Organisations



Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge

*Publishers (commercial and NfP)*

- Agree
- Disagree
- No opinion



Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge

*Publishers (commercial and NfP)*

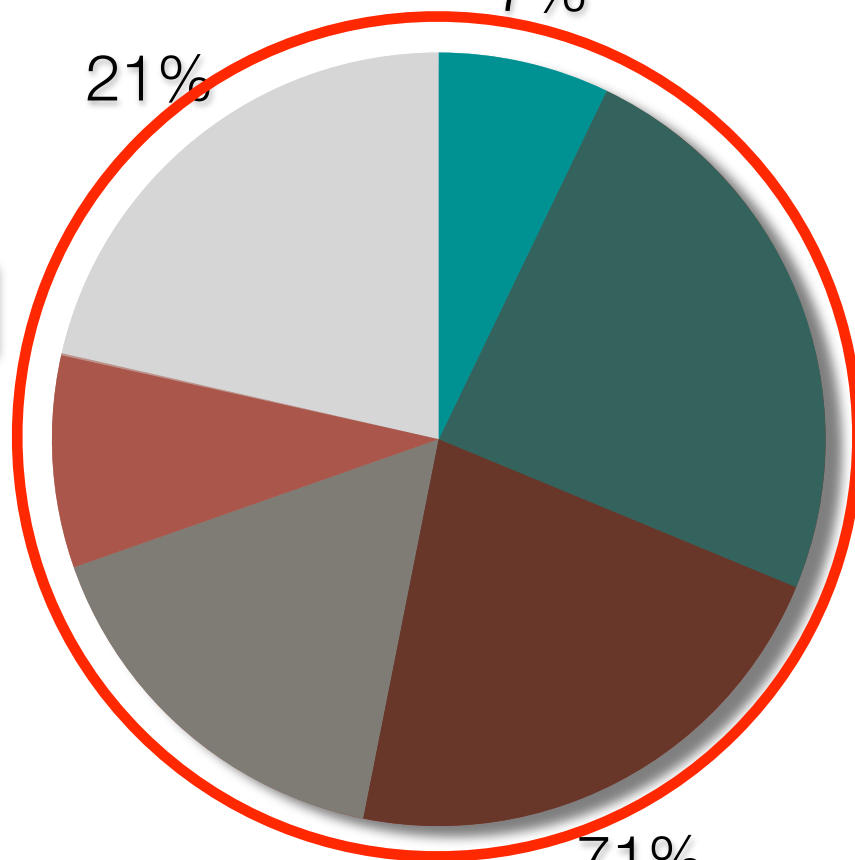
- Agree
- Disagree
- No opinion

21%

7%

*superimposed*

*Organisations  
(commercial)*



*superimposed*

*Organisations  
(Not-for-Profit)*

71%

## Some comments made:

“All aspects of current scientific research communication depend upon the infrastructure provided by the existing established publishing model.”

*“Open access to research outputs will be a significant transformative change, allowing a variety of new business models to emerge.”*

“The parameters of publishing and making a profit (surplus for Not-for-Profit publishers) may be altered so as to ensure open access on the day of publication.”

## Some more comments:

*“If the EU were to fund the publication of scientific journals then it would make sense for articles to be published free of charge. However it does not. As it is, somebody has to pay for the editing and publication (whether this involves printing hard copies or publishing online). The profit made by commercial publishers in this field is outrageous but it is difficult to argue that the EU should put pressure on these publishers to reduce their costs if there is no real alternative.”*

“Published articles are the result of investment in managing peer review, editing, layout, addition of links etc. This needs to be paid for and the question offers no mechanism for this beyond 'make it free'.”

***Recommendation:***

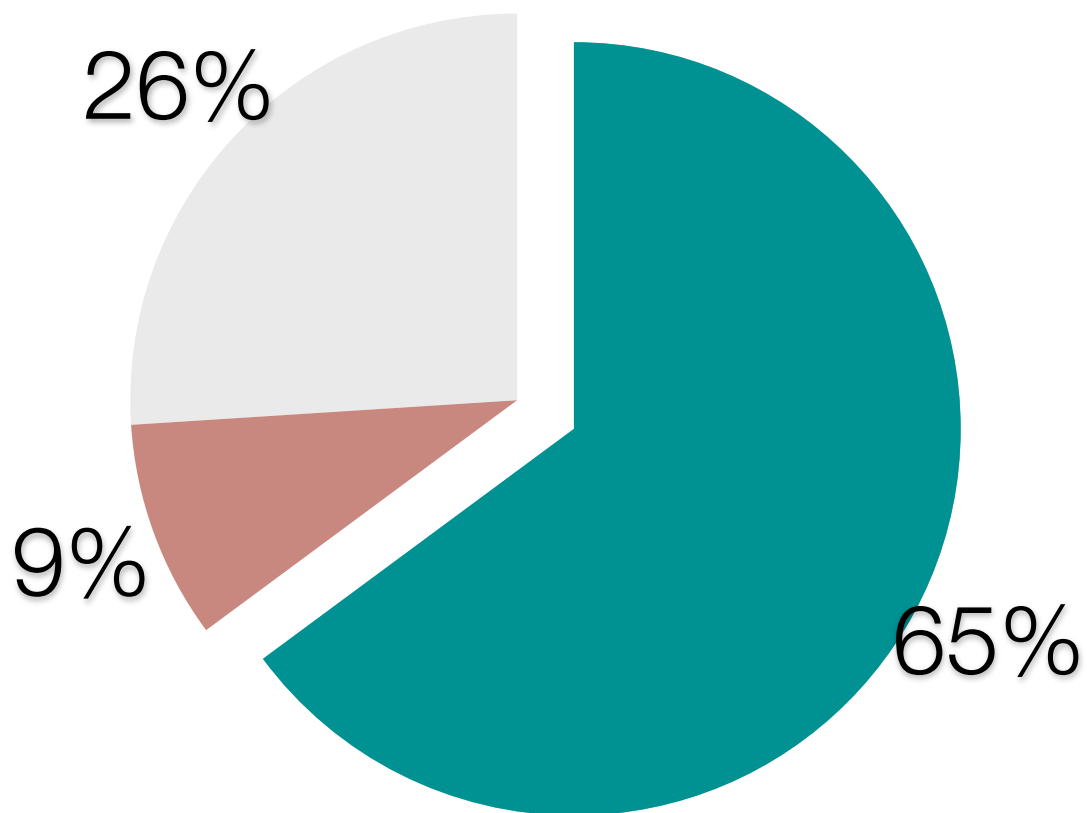
***The EU should continue the debate on the possible scenarios for economic underpinning of immediate or delayed open access that do justice to the legitimate concerns of all stake-holders in the process and to the system of scientific knowledge exchange and preservation – and make the arguments of the debate more visible.***

When should  
Peer-reviewed Scientific Publications  
be freely available?

Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge

*ALL respondents*

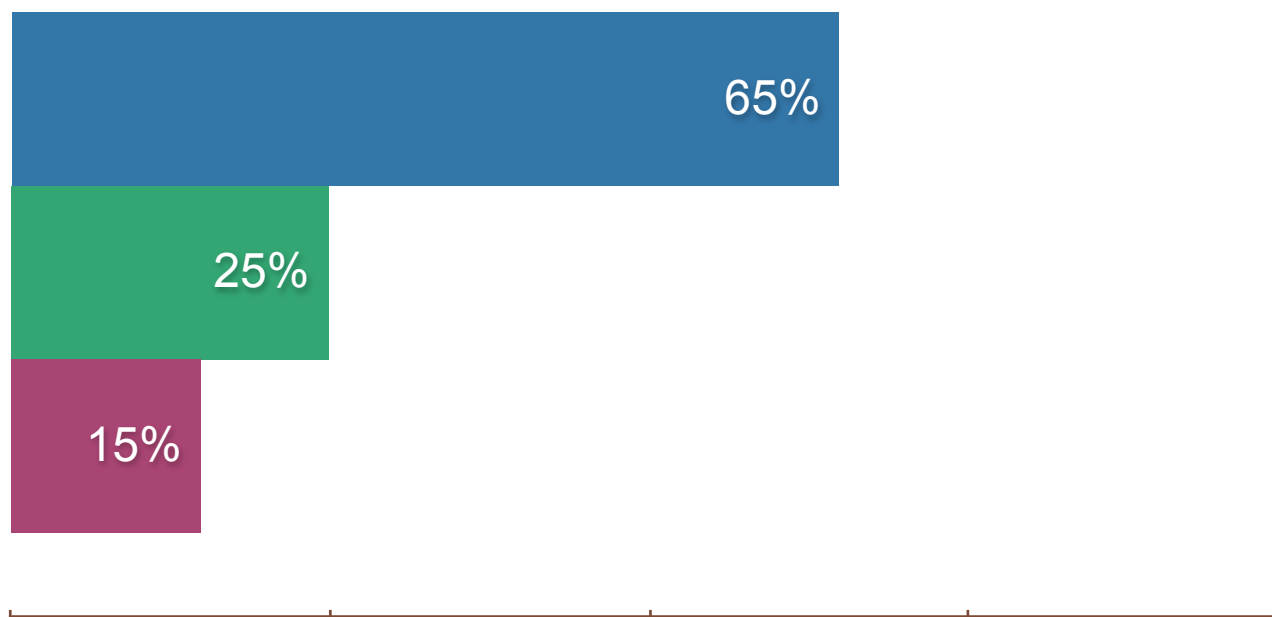
● Agree



Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge: **When?**

*Respondents who agree: ALL*

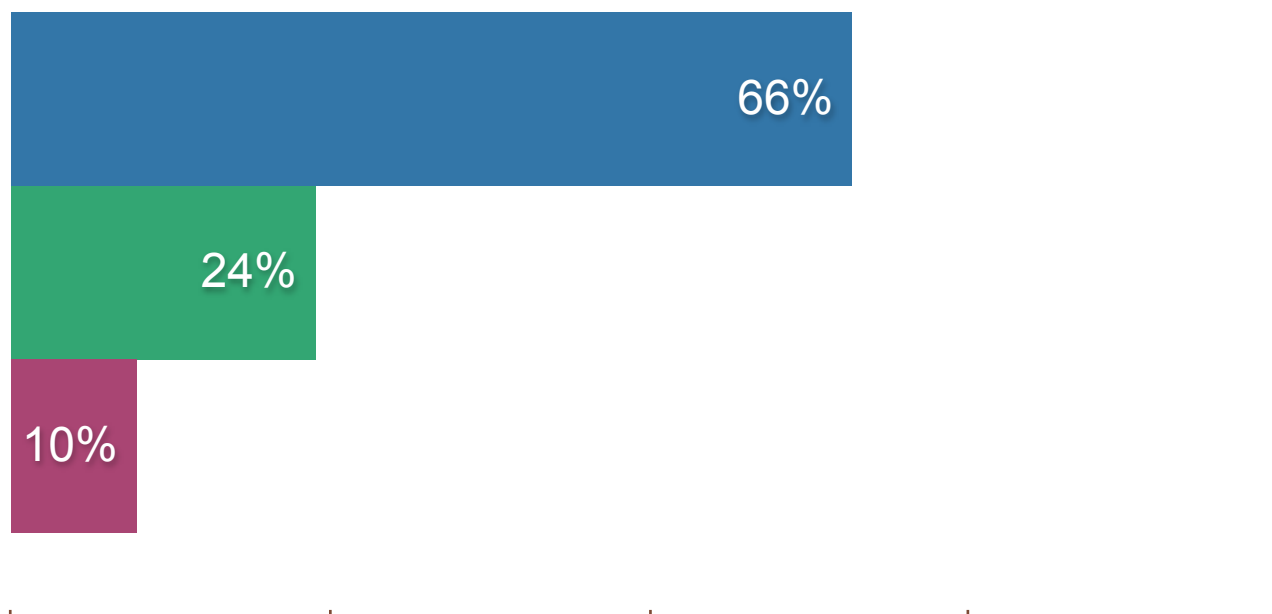
- 12 Months
- 6 Months
- As soon as published



Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge: **When?**

*Respondents who agree: Individuals*

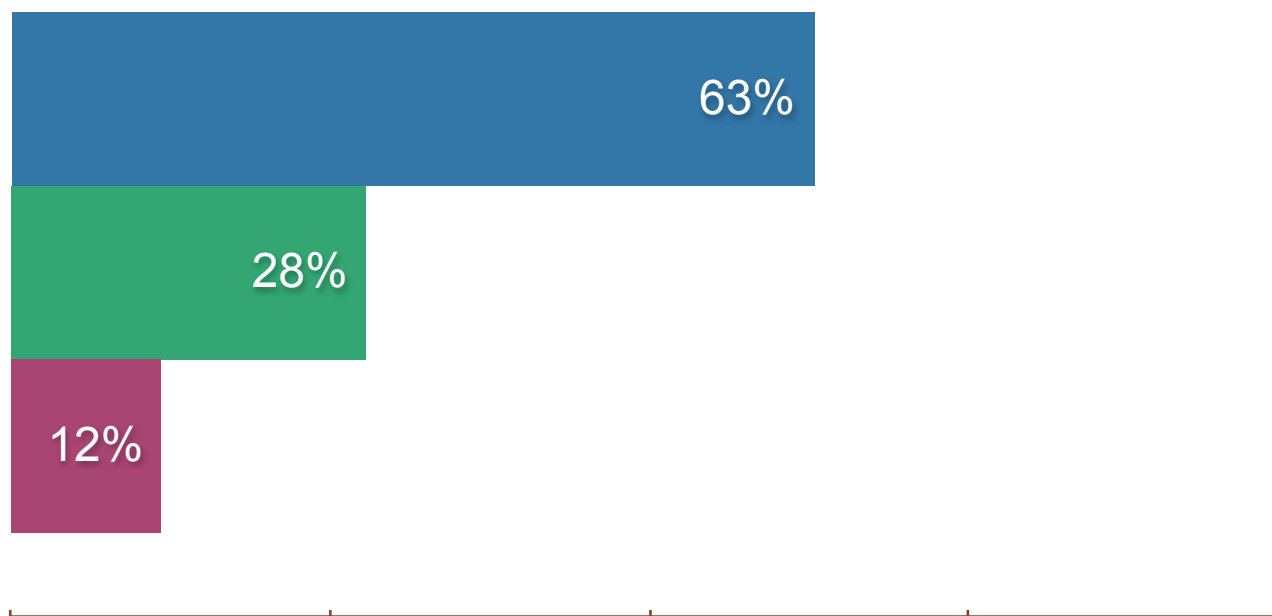
- 12 Months
- 6 Months
- As soon as published



Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge: **When?**

*Respondents who agree:  
Organisations*

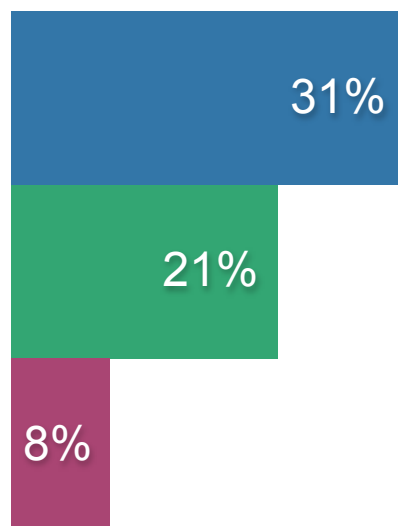
- 12 Months
- 6 Months
- As soon as published



Peer-reviewed **PUBLICATIONS** resulting from publicly funded research should be accessible without charge: **When?**

*Respondents who have NO opinion*

- 12 Months
- 6 Months
- As soon as published

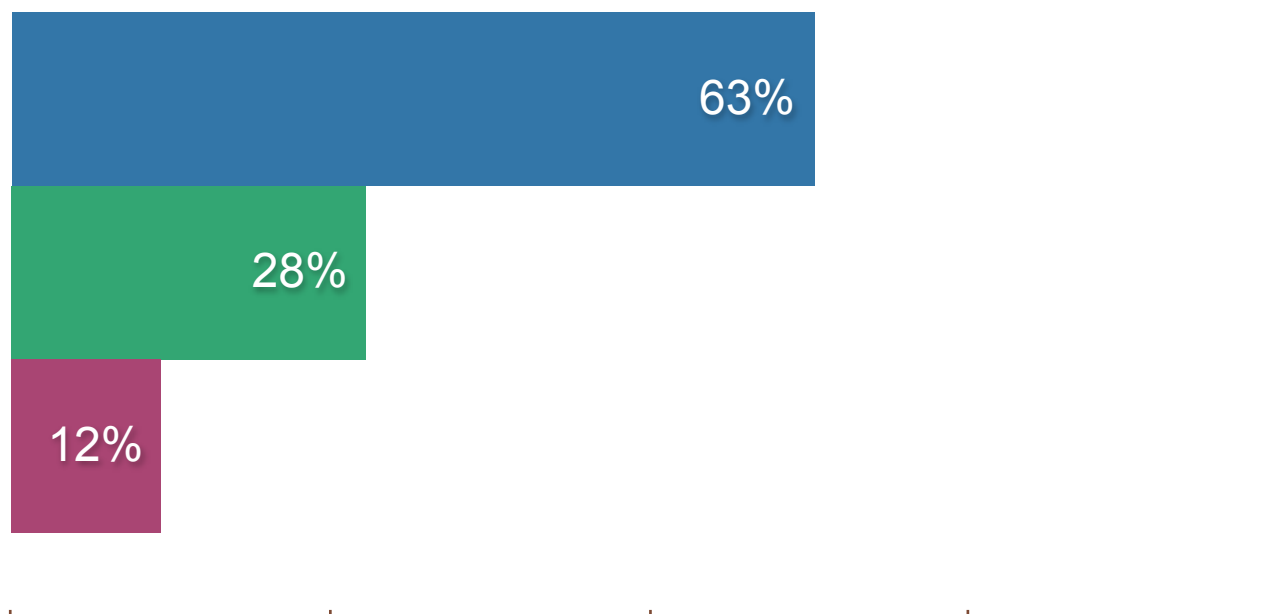


*Even among those who do NOT have an opinion on these publications being accessible without charge, a sizable percentage still answered to the questions about **when** articles should be freely available:*

Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge: **When?**

*Organisations that agree: Not-for-Profit*

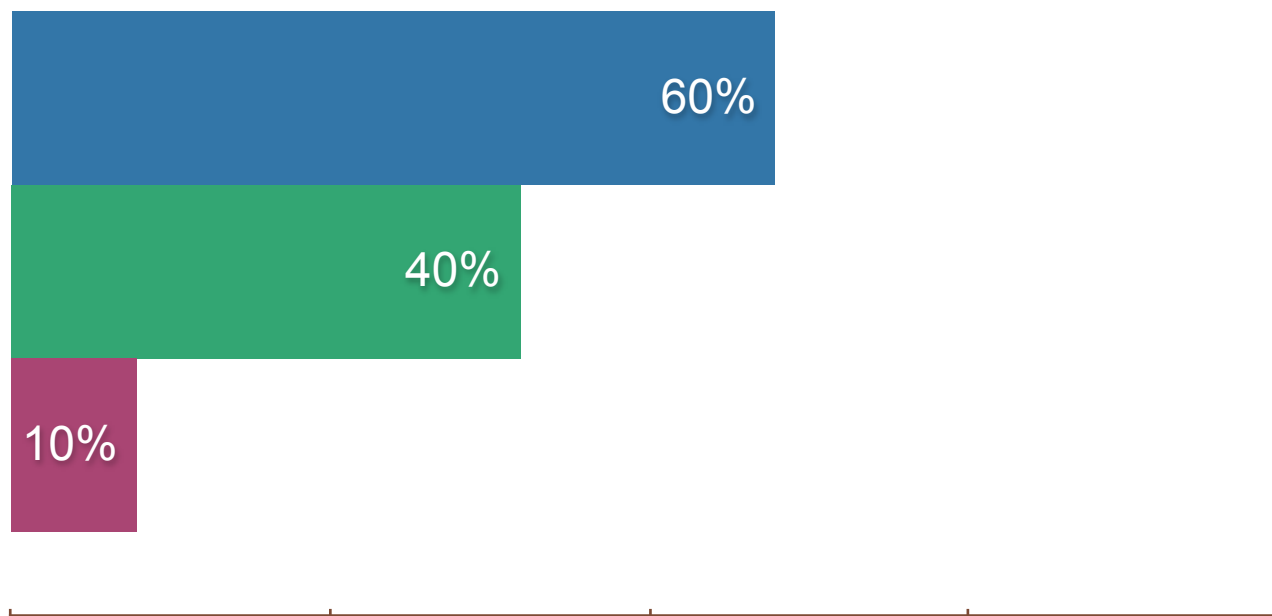
- 12 Months
- 6 Months
- As soon as published



Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge: **When?**

*Organisations that agree:  
Commercial*

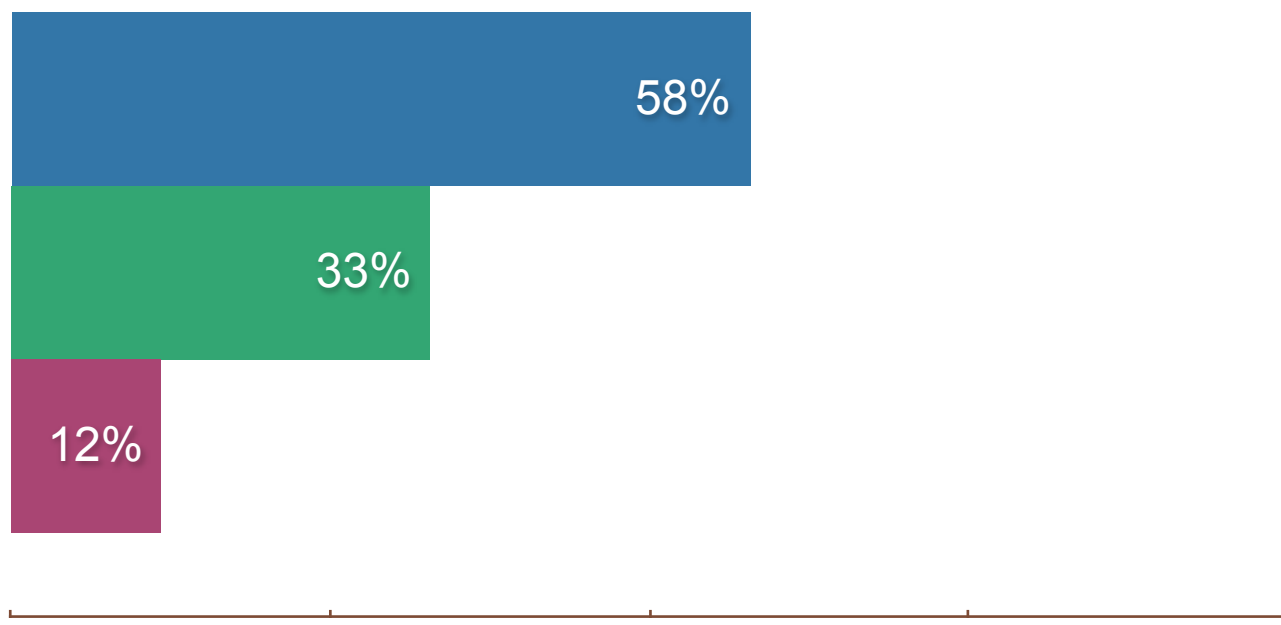
- 12 Months
- 6 Months
- As soon as published



Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge: **When?**

*Organisations that agree: HEIs and  
Public Sector Research*

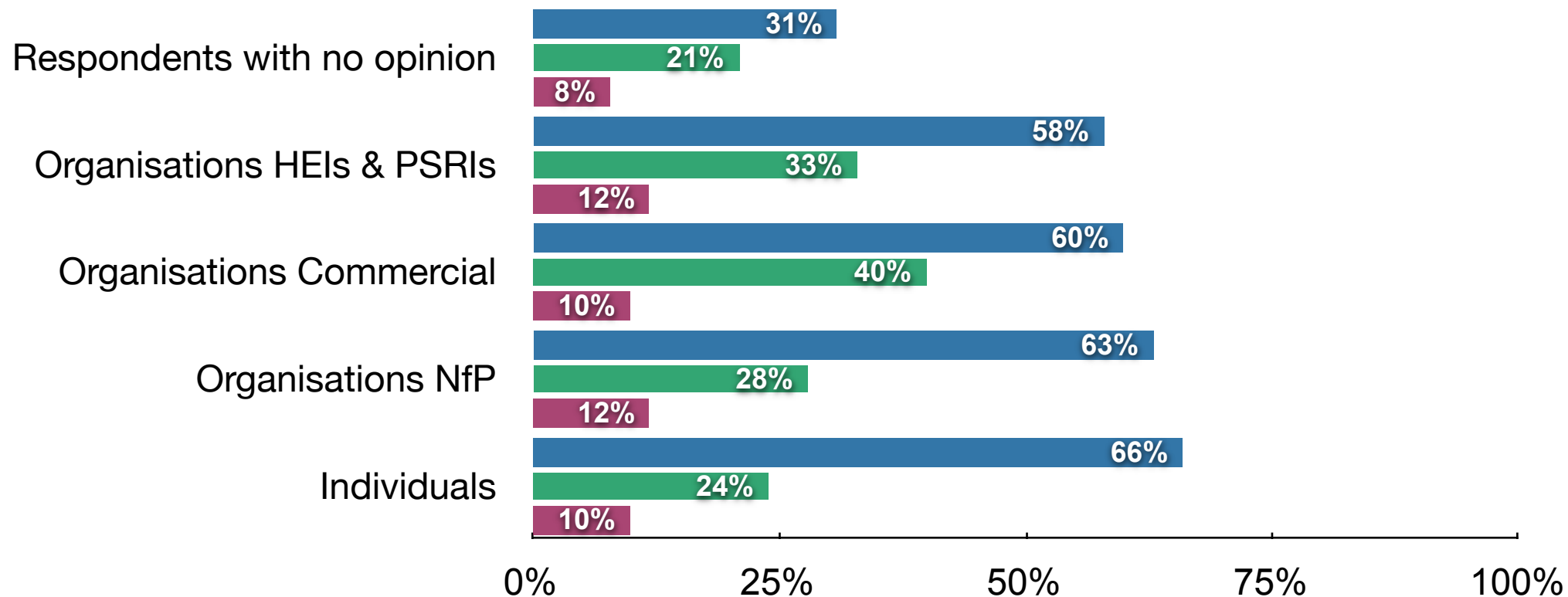
- 12 Months
- 6 Months
- As soon as published



Peer-reviewed **PUBLICATIONS**  
resulting from publicly funded  
research should be accessible  
without charge: **When?**

*Respondents who agree: ALL*

- 12 Months
- 6 Months
- As soon as published



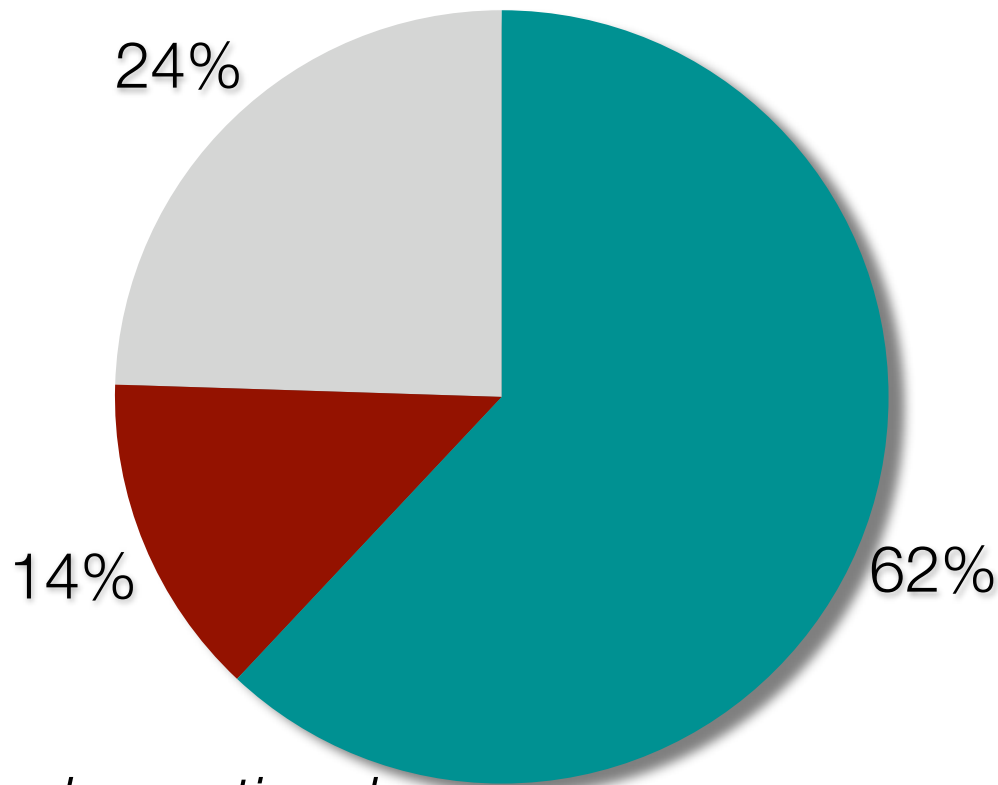
Where should  
Peer-reviewed Scientific Publications  
be available?

**ARTICLES** resulting from regional or nationally funded research should be made available in local or national repositories

ALL respondents

- Agree
- Disagree
- No opinion

*Funding: regional or national*



*Repositories: local or national*



**ARTICLES** resulting from regional or nationally funded research should be made available in local or national repositories

*ALL respondents*

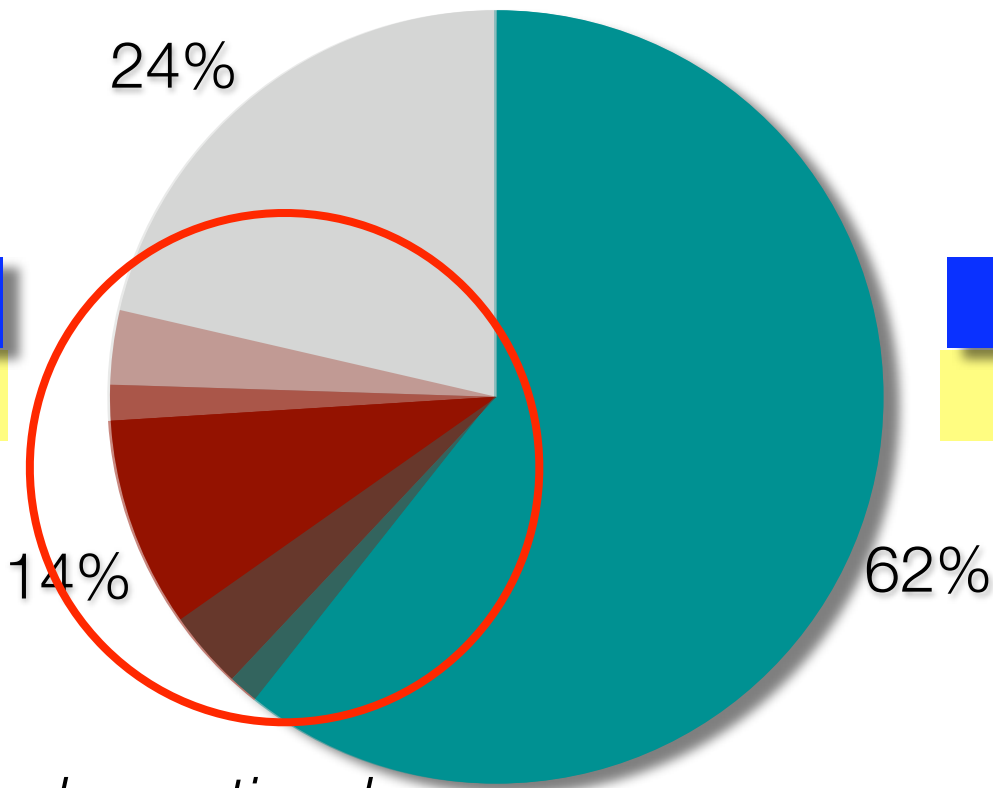
- Agree
- Disagree
- No opinion

*Funding: regional or national*



*superimposed*  
Individuals

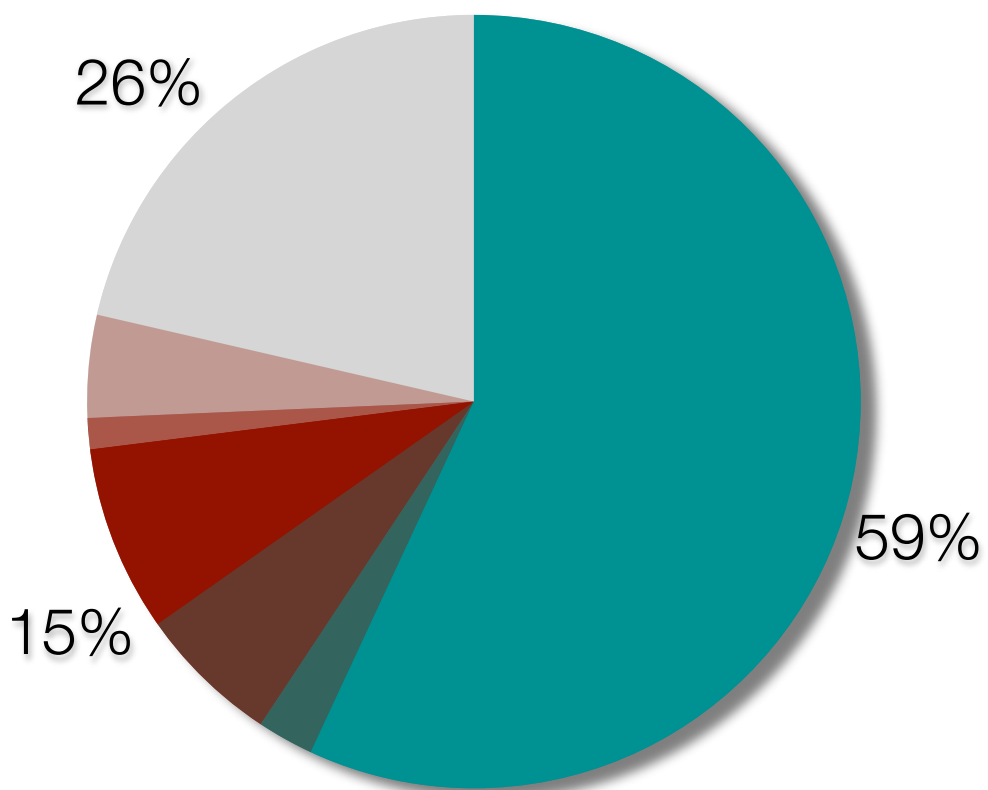
*superimposed*  
Organisations



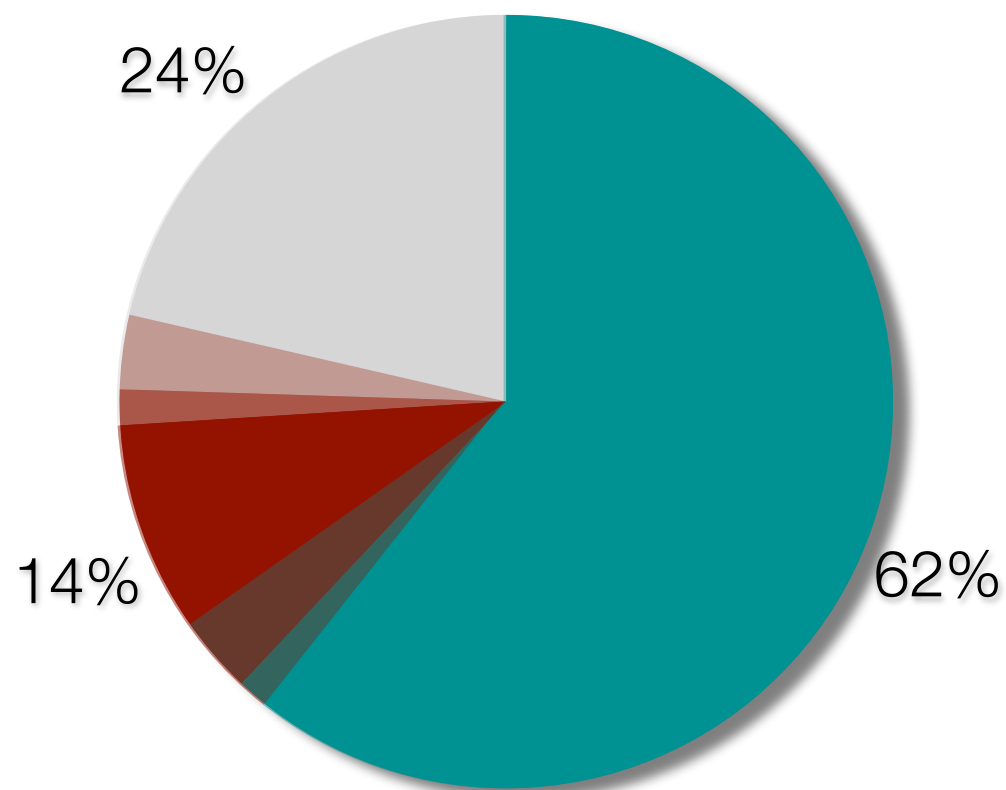
*Repositories: local or national*



*Funding: regional or national*



*Data*



*Publications*

*Repositories: local or national*



**ARTICLES** resulting from regional or nationally funded research should be made available in EU-level repositories

ALL respondents

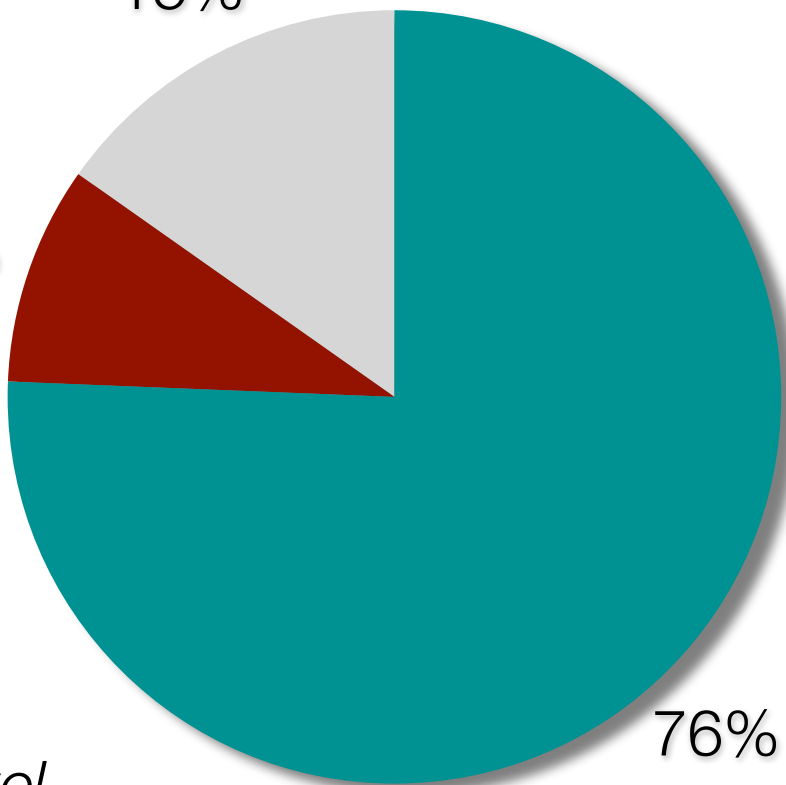
- Agree
- Disagree
- No opinion

*Funding: regional or national*



15%

9%



76%

*Repositories: EU-level*



**ARTICLES** resulting from regional or nationally funded research should be made available in EU-level repositories

*ALL respondents*

- Agree
- Disagree
- No opinion

*Funding: regional or national*



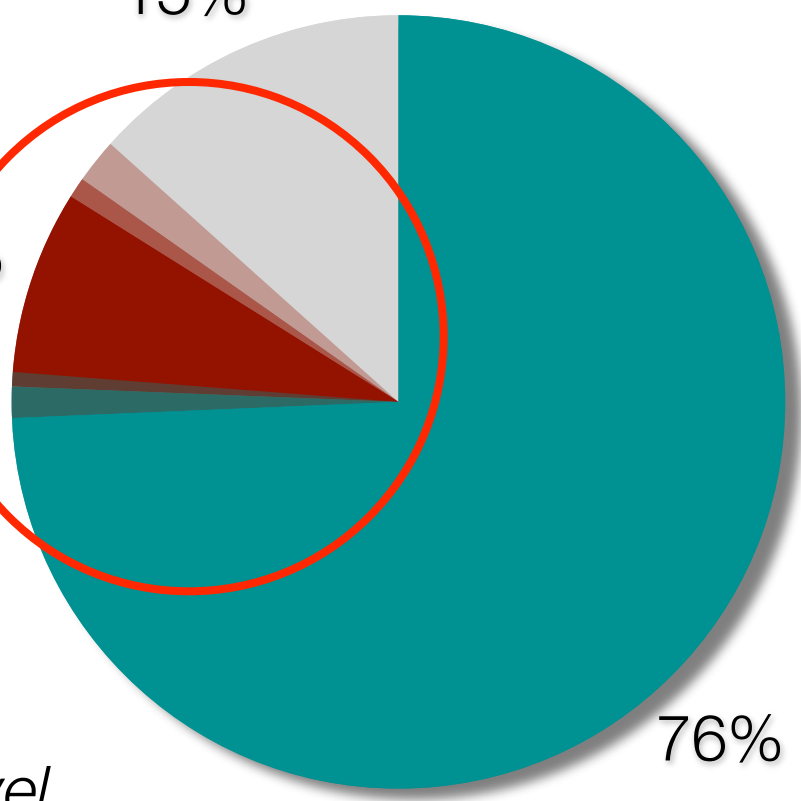
15%

9%

*Individuals*  
*superimposed*

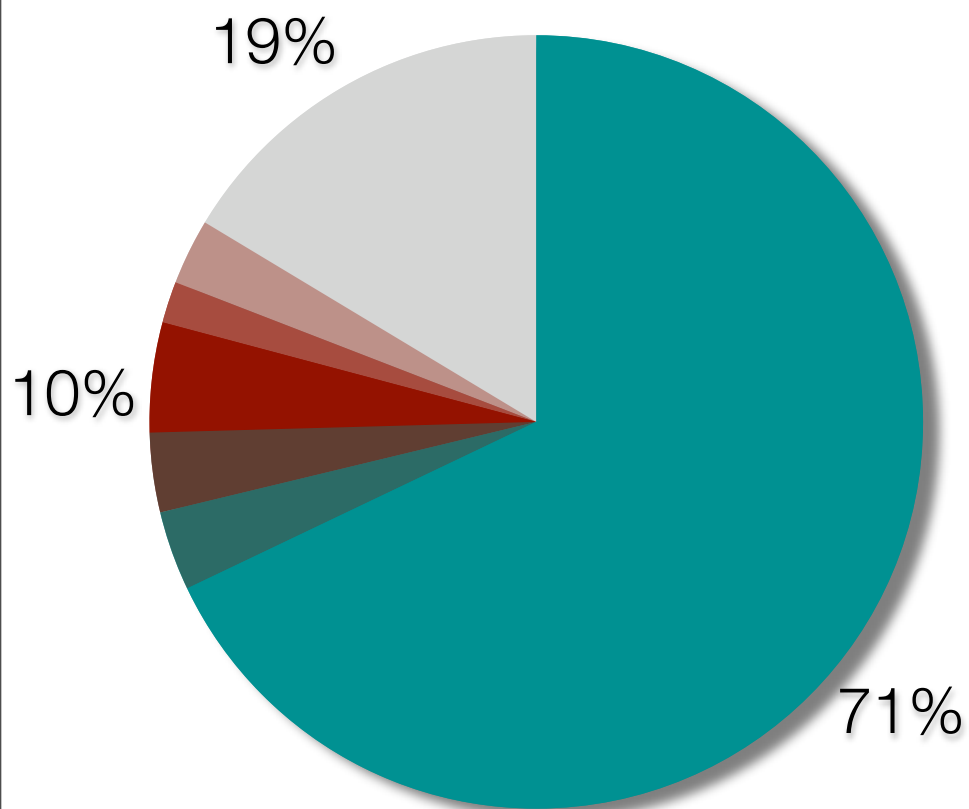
*superimposed*  
*Organisations*

*Repositories: EU-level*

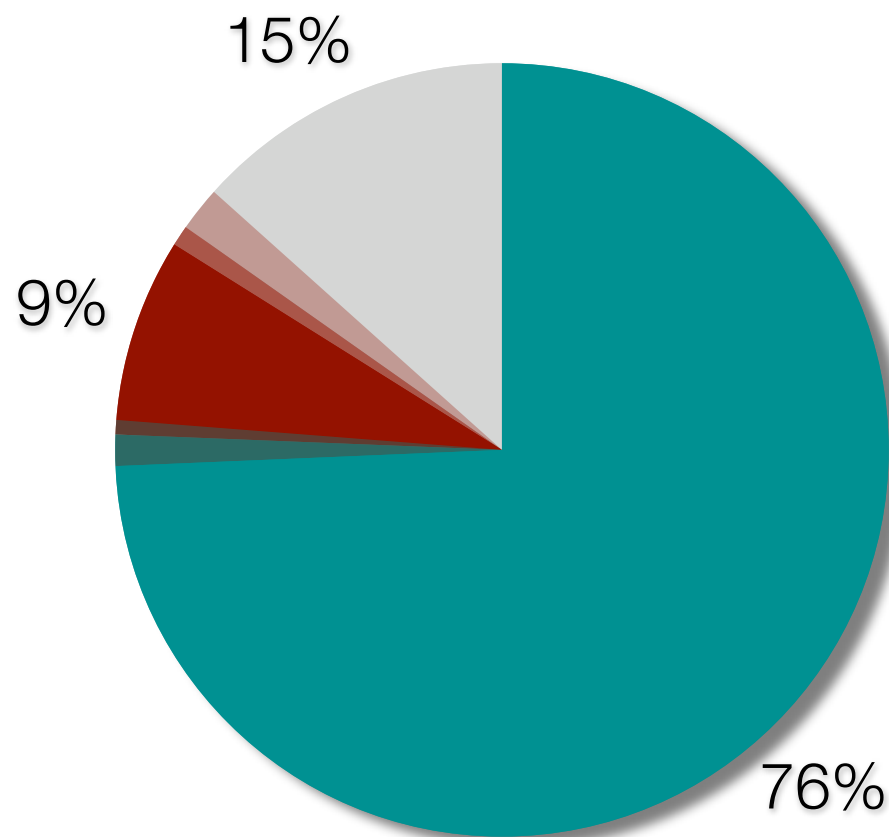


76%

*Funding: regional or national*



*Data*



*Publications*

*Repositories: EU-level*

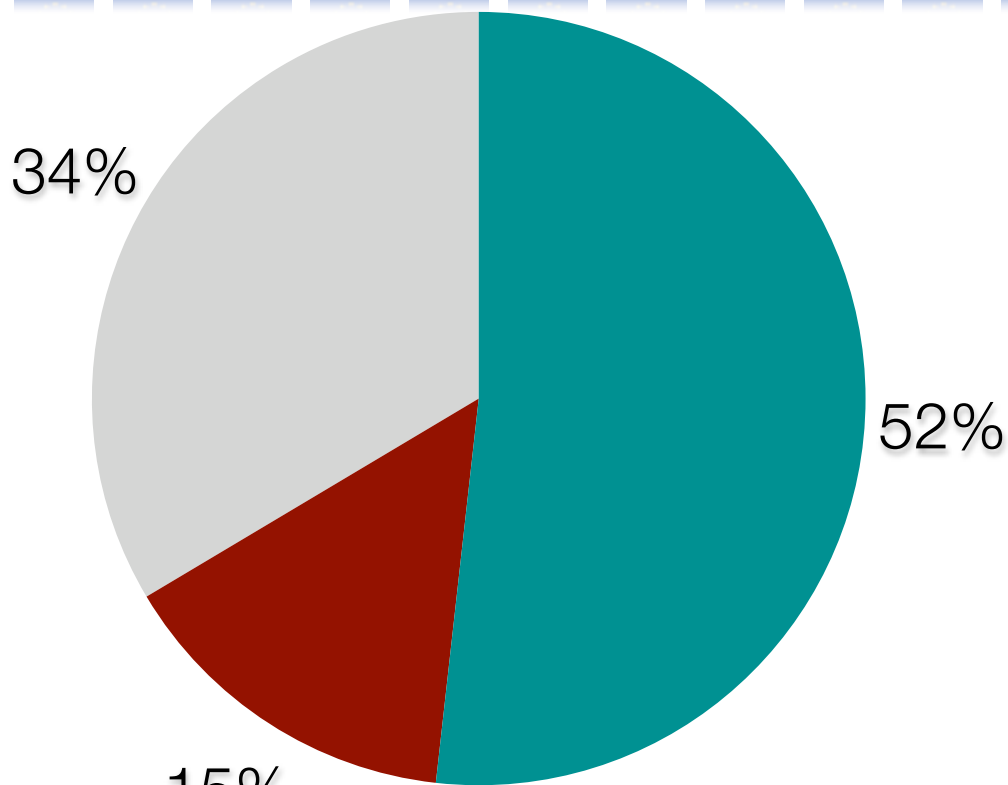


**ARTICLES** resulting from EU funded research should be made available in local or national repositories

*ALL respondents*

- Agree
- Disagree
- No opinion

*Funding: EU*



*Repositories: local or national*



**ARTICLES** resulting from EU funded research should be made available in local or national repositories

*ALL respondents*

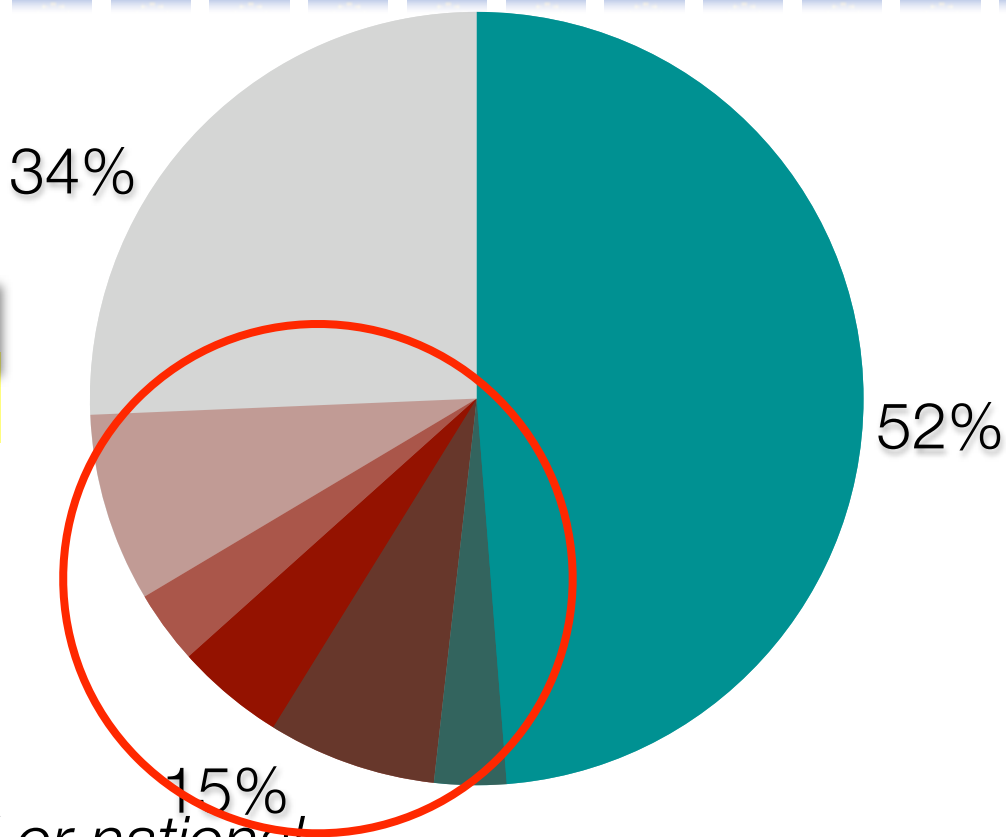
- Agree
- Disagree
- No opinion

*Funding: EU*



*superimposed*  
Individuals

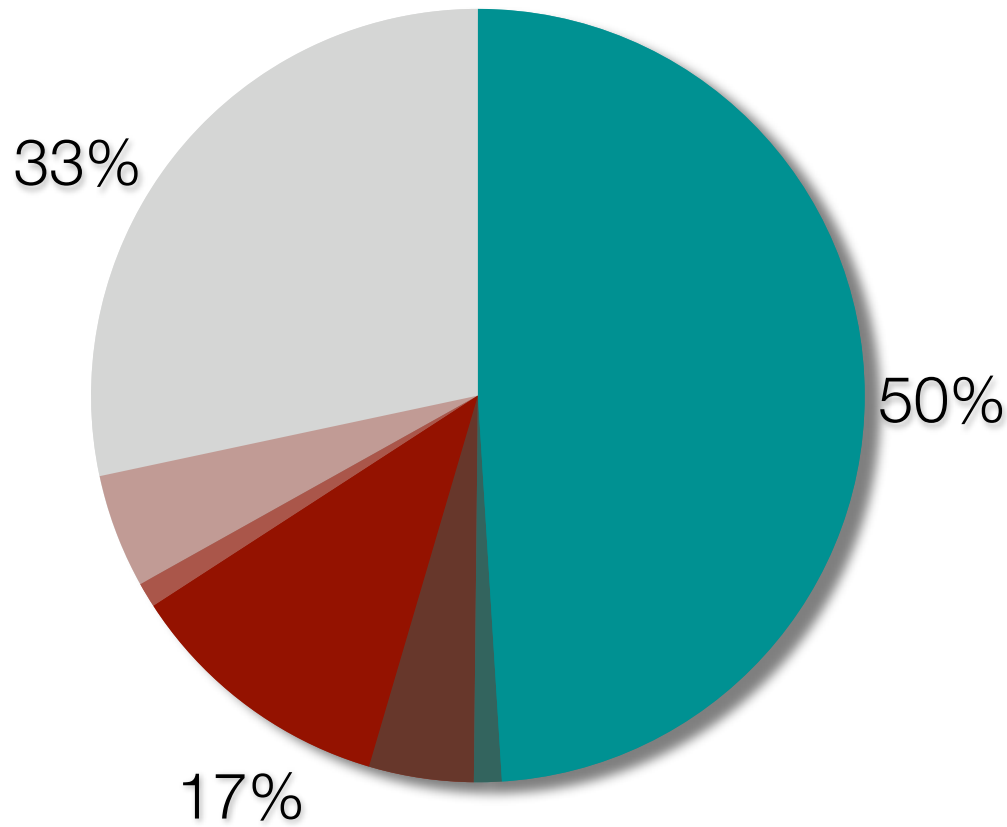
*superimposed*  
Organisations



*Repositories: local or national*

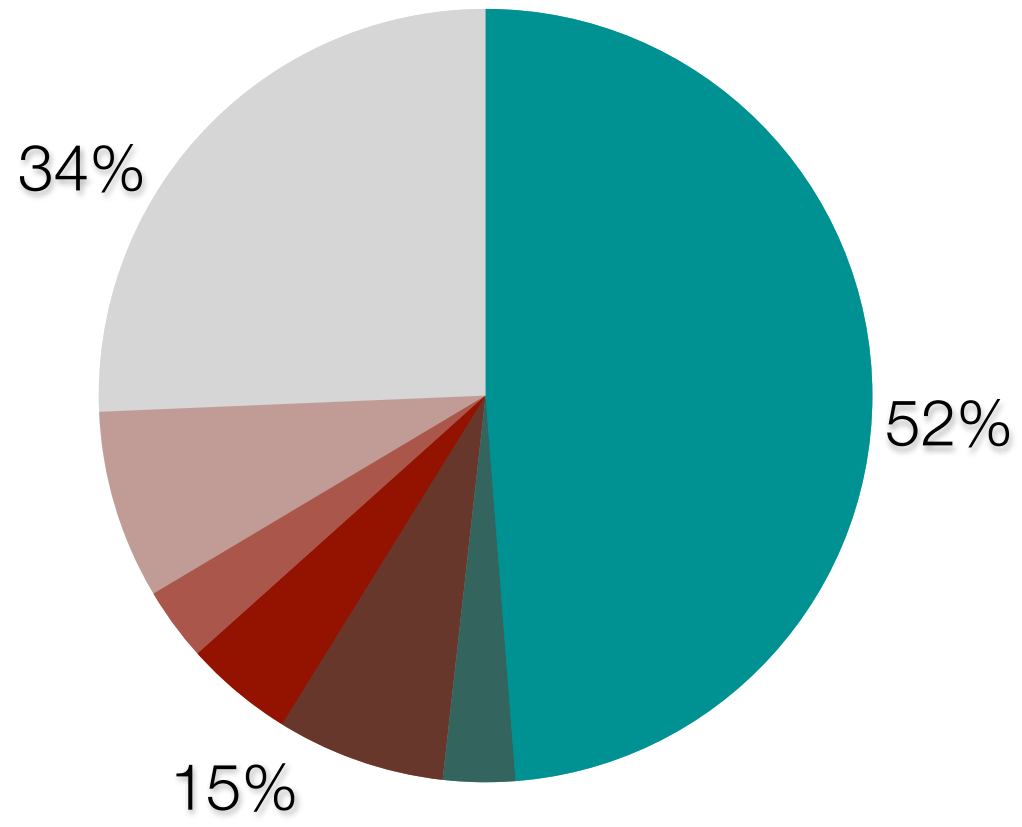


*Funding: EU*



17%

*Data*



15%

*Publications*

*Repositories: local or national*

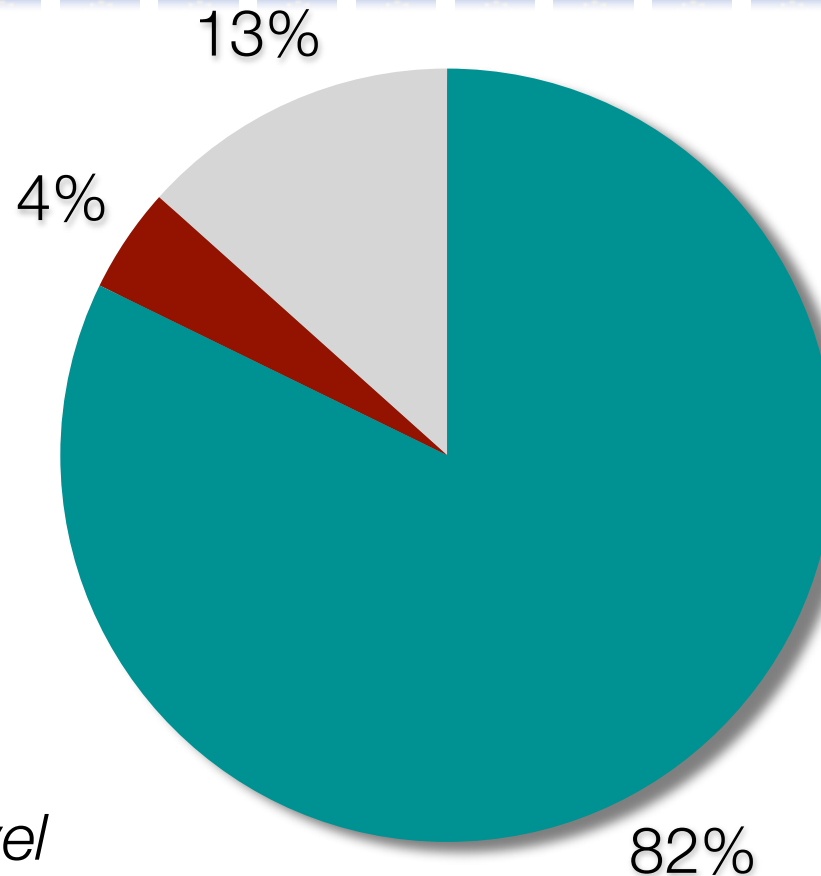


*ALL respondents*

**ARTICLES** resulting from EU funded research should be made available in EU-level repositories

- Agree
- Disagree
- No opinion

*Funding: EU*



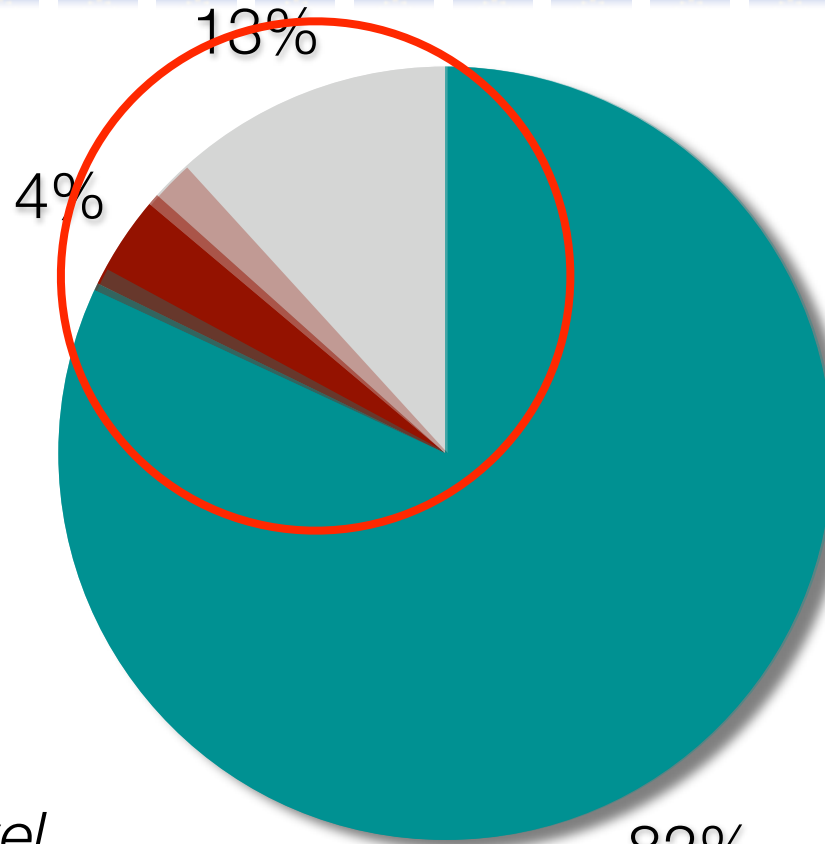
*Repositories: EU-level*

*ALL respondents*

**ARTICLES** resulting from EU funded research should be made available in EU-level repositories

- Agree
- Disagree
- No opinion

*Funding: EU*



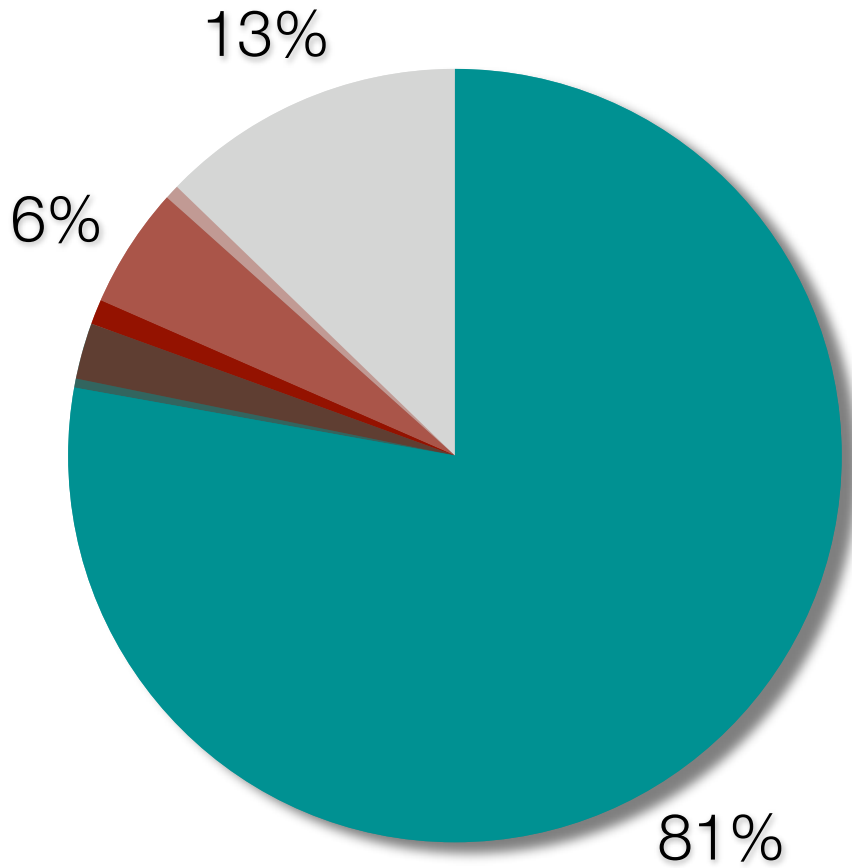
*superimposed*  
Individuals

*superimposed*  
Organisations

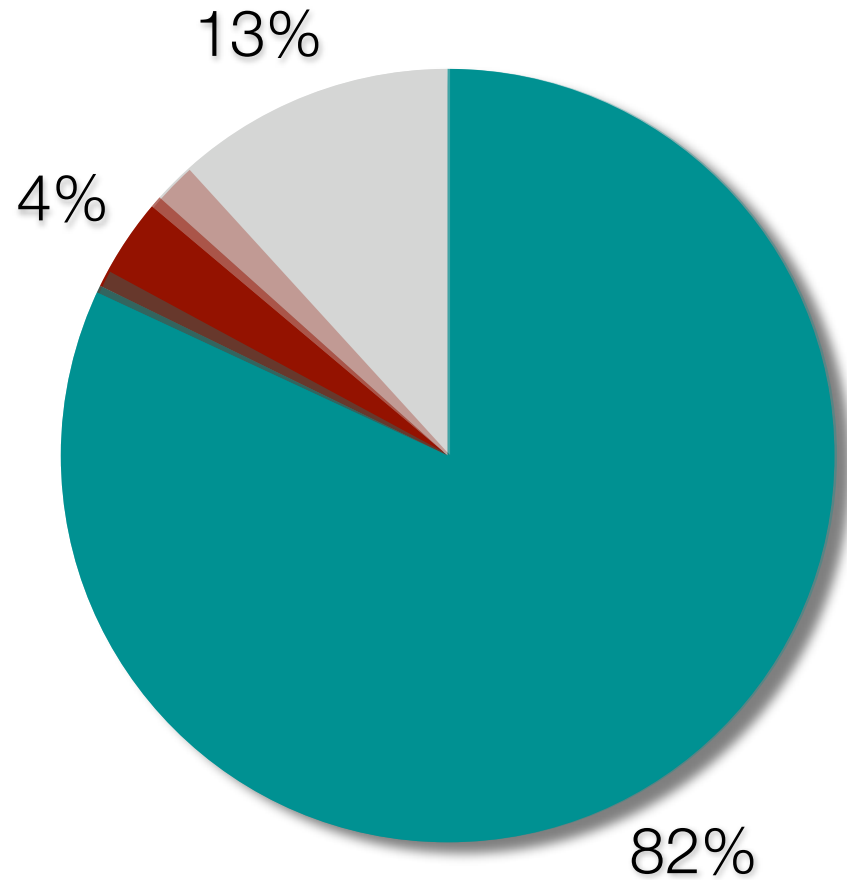
*Repositories: EU-level*



*Funding: EU*



*Data*



*Publications*

*Repositories: EU-level*

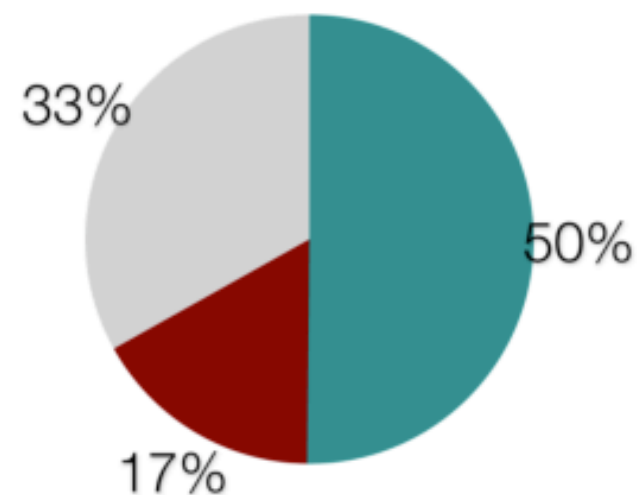
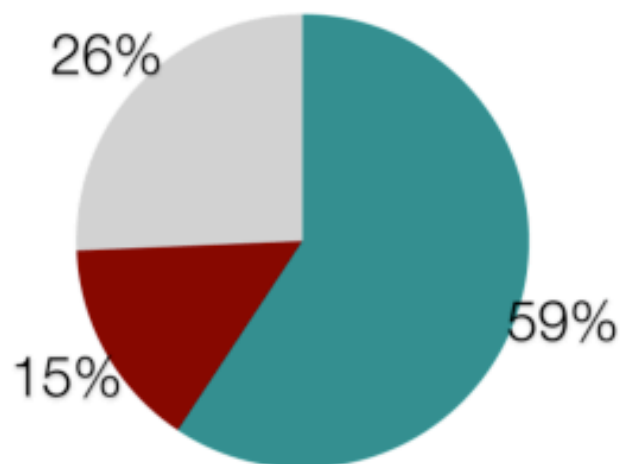


- Agree
- Disagree
- No opinion

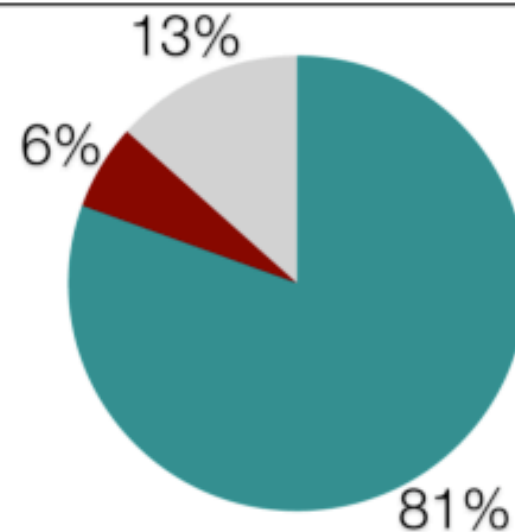
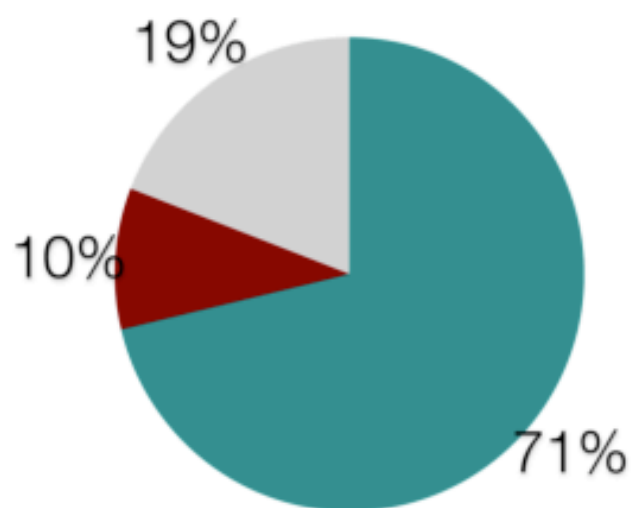
Data from nationally or regionally funded research...

Data from EU-funded research...

...should be in national or local databases



...should be in EU-level databases

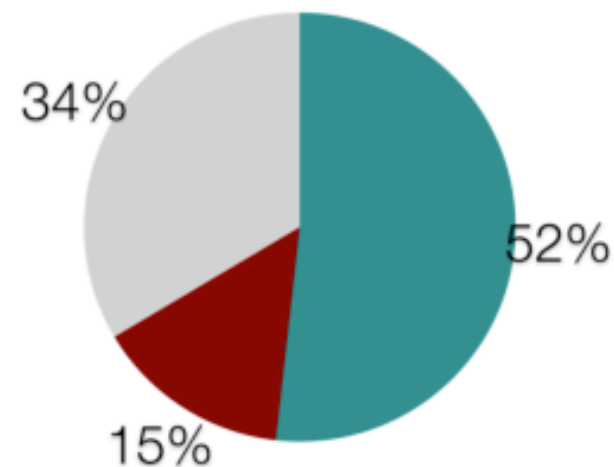
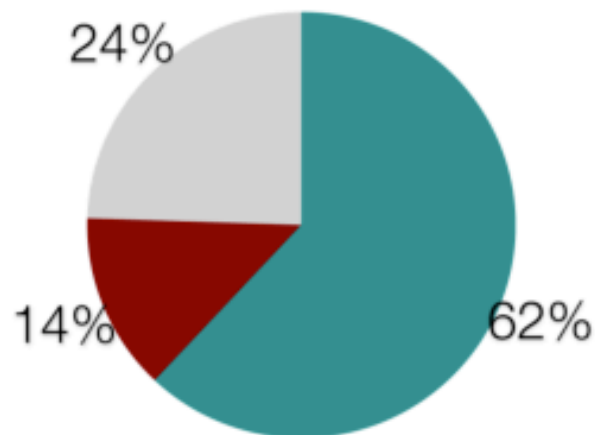


- Agree
- Disagree
- No opinion

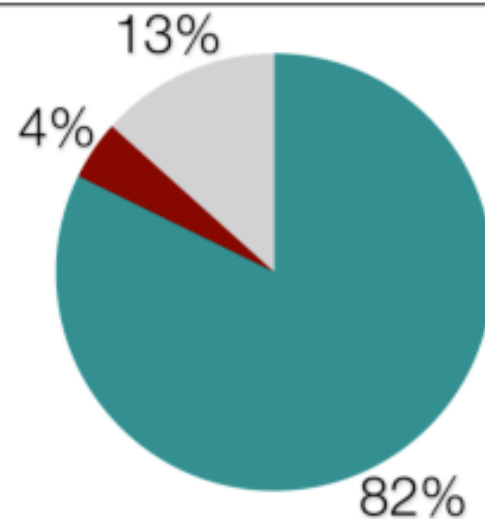
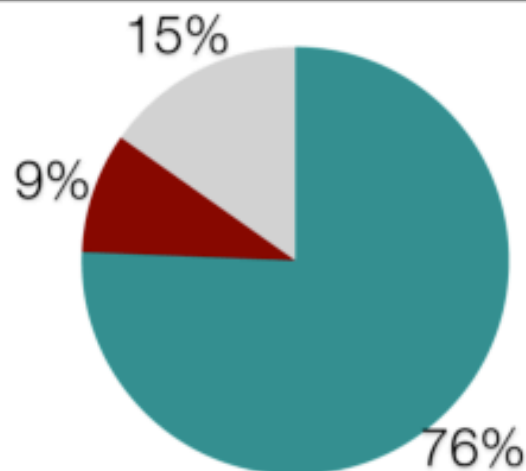
Articles from nationally or regionally funded research...

Articles from EU-funded research...

...should be in national or local repositories



...should be in EU-level repositories



# Conclusions:

1. The ready accessibility of data resulting from publicly-funded research;
  - Over two thirds of respondents agreed that they should be readily accessible
2. The free accessibility of publications resulting from publicly-funded research and when;
  - Two thirds of respondents agree that they should be freely available
  - Almost two thirds of those wanted immediate availability
  - There were some strong disagreements
3. The level on which any data or publication repositories should be available (national level or EU-level).
  - Best supported by respondents was EU-level
  - Many respondents were in favour of availability on both EU and national levels

# Issues for Debate

## 1. Knowledge Sharing

Seeking ways to achieve the sharing of knowledge and improve sharing where it already exists is only the beginning of what the EU should embark upon. Accessibility of knowledge is a relatively superficial issue, and accessibility by itself doesn't necessarily ensure a better and more efficient use of that knowledge. We have to find ways to make the transition from a world in which access to knowledge was (relatively) scarce to an environment in which it is abundant. Abundance comes with its own problems. Not so much access *per se* as ways to filter the glut of accessible knowledge become important. Indicators of authority, trustworthiness, relevance, up-to-date-ness, *et cetera* of items of information will be needed.

In the era of relative scarcity of access to knowledge (which started to end when the functionalities of the WEB started to facilitate an exponential growth in access to knowledge), these necessary indicators were mostly provided by journals and curated databases. They need to make the transition to – and perhaps be re-invented for – the new situation of abundance of access to knowledge. The EU should consider playing an active role of stimulating and enabling developments that lead to such a transition.

## 2. Data

In the context of knowledge sharing, it is reasonably clear what a scientific peer-reviewed publication is. The term 'data', however, seems to be a catch-all that needs tighter definition and stratification or classification. Numerical data-points as a result of a well-described experiment in the physical sciences are of a different nature than answers to open questions in a survey in the social sciences. It seems that different classes may need different protection of their ownership, integrity, privacy, *et cetera*.

### **3. Intellectual Property Rights**

IPR is habitually used to encompass patents as well as copyright. Yet the differences in the context of scientific knowledge sharing are considerable. For a start, the periods of protection are vastly different. And patents are not used, as copyright is, as a substitute for cash payment for publishing services in that they are transferred to the publisher in order to get a scientific article formally published. And then there is 'copyright-as-patent' for instance for the protection of software code. Using the umbrella-term IPR leads to confusion, conflation and misunderstandings and in EU policy and communication in regard of intellectual property they should be clearly and unambiguously separated.

#### **4. The cost of formal peer-reviewed scientific publication**

Formal publication of research results is less and less a question of providing access to the knowledge contained in scientific articles. Availability of the informal version in pre-print servers (such as Arxiv) is the norm in a growing number of disciplines. Formal publication is increasingly about something that could be described as ‘certification’ of the articles. The intertwining of certification and making available of the knowledge in the pre-WEB era of print only led to the then utterly sensible system of funding these activities via the sale of subscriptions. With the availability of research results effectively decoupling from the certification process, such economic underpinning of formal publication via subscriptions is likely to erode. A thorough discussion on how financially, effectively, and efficiently, to support and sustain the activity of certification – and the development of new indicators of authority, trustworthiness, *et cetera* as mention in point 1 above – to replace the economic underpinning hitherto provided by subscriptions, is needed.