

Questionnaire on the European Data-Driven Economy

Questionnaire

Following the [Commission Communication COM2014\(442\) 'Towards a thriving data-driven economy'](#), the Commission launched in January 2015 a targeted stakeholder consultation in order to gather facts and views on the role and impacts of data-driven innovation in several economic sectors. This exercise has two main objectives:

1. to understand the use of (big) data analytics in decision-making, business processes and emerging business models, and
2. to gather insights on the characteristics of a functioning data ecosystem in your specific domain and identify existing or potential barriers to the development of data-driven industrial sectors in Europe.

The questionnaire takes about twenty minutes to complete. The outcome will contribute to the definition of future initiatives for the data-driven economy.

Thank you for your time and input.

In case your company or organisation wishes to submit any additional input please send it to CNECT-G3@ec.europa.eu

The deadline for submissions is 15 September 2015.

Participation in the questionnaire is anonymous by default. Responses will be analysed so that no individual person or organisation can be identified.

Optionally, in case you accept to be identified and contacted by European Commission staff for further details on the answers provided in the current questionnaire, please share your contact details with us in the space dedicated for this purpose at the end of the questionnaire.

Section A: Background information

A1. Information about the organisation

Sector:

- | | |
|--|---|
| <input type="checkbox"/> Agriculture, Fisheries and Forestry | <input type="checkbox"/> Transport |
| <input type="checkbox"/> Manufacturing | <input type="checkbox"/> Healthcare |
| <input type="checkbox"/> Entertainment and Media | <input type="checkbox"/> Financial Services |
| <input type="checkbox"/> Telecommunications | <input type="checkbox"/> Retail |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Maritime and Fisheries |
| <input type="checkbox"/> Public sector | <input type="checkbox"/> Academia |
| <input type="checkbox"/> Research | <input type="checkbox"/> Other: |

From which country is your organisation from?

Are your business activities mainly conducted in EU?

- Yes No

If no, please specify

Number of employees:

- 1-5 6-29 30-99 100-999 >1000

Section B: Data-driven innovation in the organisation

	No experience	Considering DDI	Planning DDI	Piloting DDI	Effectively using DDI
1. To what extent does your organisation have experience with big data and data-driven innovation (DDI)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Does your organisation have a strategy on big data or data analytics?

- Yes No

B1. Data Sources

3. From what sources does your organisation collect, or expects to collect, data?

For each row, please tick only one box. To suggest other sources, please use the space provided.

	Collect now	Expects to collect in 5 years	No plans to collect	Do not know
Log	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Transactions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Events	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sensors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Open data/Public Sector Information (PSI)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Phone usage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reports to authorities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External feeds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RFID scans or POS data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Earth Observation and Space	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Geospatial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Free-form text	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Audio	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Still images/videos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other:

	<10%	10-40%	41-60%	61-90%	>90%
4. From all data collected by your organisation, what is approximately the share of external data (collected from external sources), compared to internal data (produced by your operations)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. From all data collected by your organisation, what is approximately the share of data that your organisation exploits to improve business processes, products, etc.?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. What type(s) of data does your organisation find relevant but has not yet been able to exploit?

7. What are the main obstacles that prevent you from having access to all the datasets that are relevant for your organisation?

Additional comments

If you have additional comments about data sources, please use the space provided below:

B2. Use of Data Analytics

8. From all the data collected by your organisation, what is approximately the percentage that is further processed for value generation?

	<10%	10-40%	41-60%	61-90%	>90%
Currently	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Expected (in 5 years)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

9. Does your organisation have the right analytical tools to handle (big) data?

Has now Expects to have them in 5 years No plans to have them Do not know

Additional comments

If you have additional comments about data analytics, please use the space provided below:

10. What analytical tools do you consider particularly important?

11. Does your organisation have the right tools to handle unstructured data expressed in (a) natural language(s)?

Has now Expects to have them in 5 years No plans to have them Do not know

12. What tools do you consider particularly important to handle unstructured data expressed in (a) natural language(s)?

13. What are the particular research needs of your organisation on big data analytics that you find essential to adequately handle your data assets?

B3. Data-Driven Organisational Culture and Human Resources

14. Which departments in your organisation are involved in using data technologies and data analytics?

Please tick all that apply. To suggest other departments, please use the space provided.

- IT
- Human Resources
- Logistics
- Operations
- Research
- Marketing
- Customer Service
- Business Development
- Executive Management

Other:

15. Does your organisation have the necessary skills to handle big data?

- Yes No

16. Is recruitment of staff with strong data skills crucial?

- Yes No

17. Is senior management in your organisation involved in big data-related projects?

- Yes No

18. Is data-driven decision-making part of the organisation's culture?

- Yes No

Additional comments

If you have additional comments about data-driven organisational culture and human resources, please use the space provided below:

B4. Data Ecosystem

19. In your organisation, data collection is:

- In-house
- Outsourced
- Both

20. In your organisation, data analytics is:

- In-house
- Outsourced
- Both

21. Does your organisation share data with other entities (with customers, suppliers, companies, government, etc)?

Yes No

If yes, with whom?

If yes, what is the added value?

If yes, what are the reasons for doing so?

22. What is (or would be) the added value of collaborating with other entities regarding data sharing in your sector?

23. What would be needed to support collaboration on data sharing in your sector?

24. What is (or would be) the added value of collaborating with other entities regarding data sharing across economic sectors?

25. What would be needed to support collaboration on data sharing across economic sectors?

26. Do you see a need to share data processing facilities?

Yes No

If yes, please specify

27. Does your organisation buy datasets from other entities?

Yes No

If yes, please specify

Additional comments

If you have additional comments about the data ecosystem, please use the space provided below:

B5. Data-driven innovation impacts

28. In which way does big data create, or is expected to create, value in the organisation?

For each row, please tick only one box. To suggest other big data impacts, please use the space provided.

	Creates value now	Expects to create value in 5 years	Does not create value in this way	Do not know
Improved customer targeting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improved customer loyalty and retention	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Efficiency increase	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Better product design	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Risk/Financial Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
New business model	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other:

	1 Small CA	2	3	4	5 Large CA
29. To what extent does data-driven innovation add to the competitive advantage (CA) of your company?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

30. In your view, what can the EU do to improve value creation from data-driven innovation?

Additional comments

If you have comments about data-driven innovation impacts, please use the space provided below:

Section C: Framework conditions and challenges

C1. (Big) data standards and interoperability

31. Do you see the need for actions in the area of standardisation (including both formal standards and the promotion of/agreement on *de facto* standards) related to your sector?

Yes No

29.1. If yes, where do you see the need for standardisation actions?

A: Developing new standards

Yes No

Please specify the type of standard in the space provided

B: Agreeing on existing (*de facto*) standards

Yes No

Please specify the type of standard in the space provided

29.2. If yes, at which levels do you see the need for standardisation actions?

For each row, please tick only one box. To suggest other levels of standardisation, please use the space provided.

	Yes	No
Data representation formats (like XML)	<input type="checkbox"/>	<input type="checkbox"/>
Metadata schemata	<input type="checkbox"/>	<input type="checkbox"/>
Data related processes (like data collection, data curation)	<input type="checkbox"/>	<input type="checkbox"/>
Data licensing conditions	<input type="checkbox"/>	<input type="checkbox"/>
Entity identifiers for the sector	<input type="checkbox"/>	<input type="checkbox"/>
Big Data technologies (like interoperability of Big Data technologies in software stacks)	<input type="checkbox"/>	<input type="checkbox"/>
Data service protocols	<input type="checkbox"/>	<input type="checkbox"/>
APIs for simplified data sharing and reuse between data-driven services and applications	<input type="checkbox"/>	<input type="checkbox"/>

Other levels of standardisation, please specify

Please specify your selection(s)

29.3. If yes, in which context do you see the need for standardisation actions?

A: Along the data value chain within your sector

Yes No

Comments

B: Along the data value chain across sectors (please specify the relevant sectors in the space provided)

Yes No

Additional comments

If you have additional comments about standards, please use the space provided below:

32. Do you see specific areas that would benefit from increased interoperability (such as when the same work in areas like data transformation or data integration needs to be done over and over again or is very effort-intensive)?

Yes No

If yes, please specify

- the type of work that would benefit from increased interoperability:

- what needs to be done to increase interoperability:

- an estimate of potential efficiency gains (such as 'reducing the processing time for data exchanges by 20%' or 'reducing integration of Hadoop with data warehouse by 30%'):

- the concerned domain(s):

C2. Challenges and framework conditions of the data-driven economy

33. How relevant are the following big data-related challenges for your organisation?

For each row, please tick only one box. To suggest other big data challenges, please use the space provided

	Very Important	Important	Moderately Important	Of Little Importance	Unimportant (not a challenge)
Timeliness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overwhelming volume	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Managing unstructured data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data quality	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Availability of data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access rights to data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Data ownership issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cost of data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of facilities, infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of pre-processing facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lack of technology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Shortage of talent/skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Privacy concerns and regulatory risks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Difficulties of data portability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Corporate culture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other, please specify:

34. Does your organisation perceive the need for more effort at EU level to promote security and trust in data technologies? If yes, please specify what needs to be done.

Yes No

If yes, what measures would you propose to put in place in this respect?

35. Do you see the need to support the development and implementation of technical solutions that are enhancing data protection 'by design' and 'by default'?

Yes No

If yes, which of the following options are the most promising in your view?

- codes of conduct
- certification mechanisms
- personal data spaces (enabling the individual to control one's personal data)
- other (please specify):

36. Do you see the need to address the issues of data "ownership" or access to non-personal data (e.g. machine-generated data) at EU level?

Yes No

If yes, what course of action would you suggest in this respect?

37. Do you see the need to clarify copyright aspects of the data-driven innovation (e.g. with respect to technologies such as text and data mining)?

Yes No

If yes, what measures would you propose to put in place in this respect?

38. Is your organisation's business affected by regulatory restrictions on data/servers localisation requirements?

Yes No

If yes, please specify and also indicate the Member State concerned

39. Do you see regulatory restrictions on data/servers localisation requirements as obstacles for data-driven innovation?

Yes No

If yes, please specify

40. Do you see areas in your domain or across domains where vendor lock-in is a potential risk?

Yes No

If yes, please specify

- the type of potential vendor lock-in:

- which specific actions need to be pursued in (de facto) standardisation to prevent vendor lock-in:

- the concerned domain(s):

41. Are there any further important challenges with respect to data-driven innovation in your organisation where measures at national or EU level should be put in place (Please note: this does not only mean "regulatory measures")?

Yes No

If yes, please specify the challenges and suggest appropriate measures at national or EU level

Additional comments

If you have additional comments about big data challenges, please use the space provided below:

In the space below, you can provide recommendations regarding the development of EU data-driven industrial sectors. If you wish, you may suggest actions at industry, Member-States or EU institutions levels.

Thank you for taking the time to complete this questionnaire! Your contribution is very important to understand the role and impacts of big data in the EU economy.

Additional comments

If you have comments, please use the space provided below:

In case you accept to be identified and contacted by European Commission staff for further details on the answers provided in the current questionnaire, please share your contact details with us in the space below:

Should you have any question, please contact:

CNECT-G3@ec.europa.eu