



SeTA (Semantic Text Analyser)

What can Semantic Analysis do for you?

Bertrand De Longueville - Text Mining and Analysis Competence Centre

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The challenge : information over-abundance

Much of the world's data is textual – in large document archives, in scientific papers, in scattered websites, in social media. The information contained in text is invaluable and yet hard to access.

"We are drowning in information but starved for knowledge"

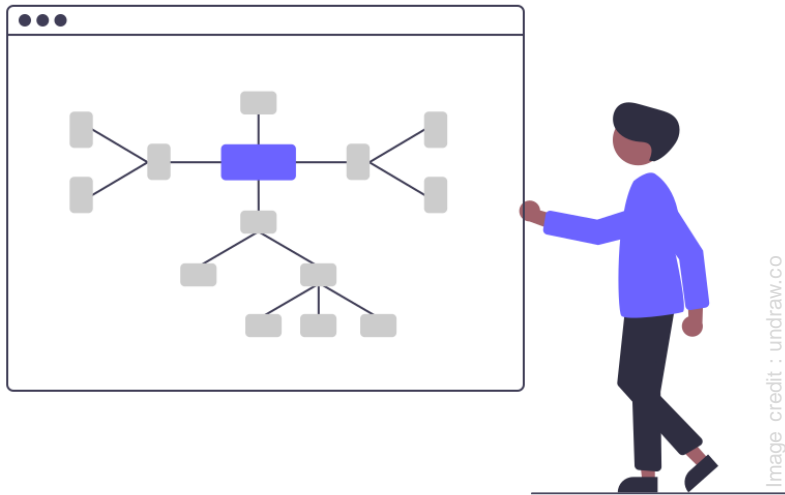
John Naisbitt



Image credit : undraw.co

The opportunity : Semantic Analysis

Semantic Analysis allows converting raw information into knowledge, by creating “maps” of concepts expressed in thousands of documents.



“You shall know a word by the company it keeps”

John Rupert Firth (1957)

*“A bottle of *tesguino* is on the table.*

*We make *tesguino* out of corn.*

**Tesguino* makes you drunk.*

Did you guess what I am talking about?”

Edward Nida (1975)

Semantic Text Analyser (SeTA)

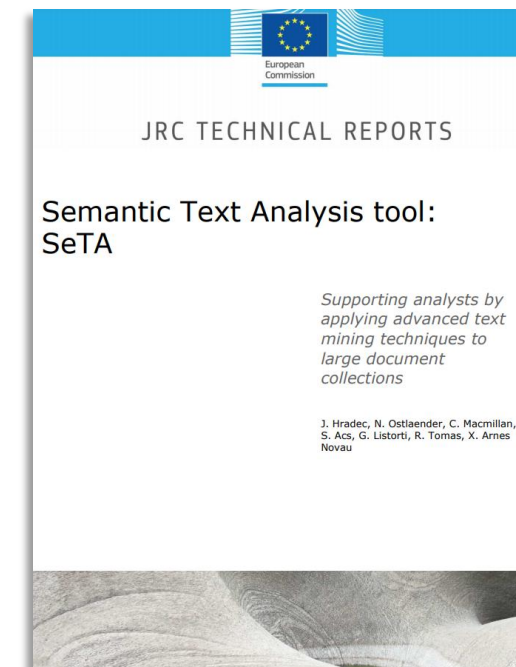
Mapping Policy and Science Documents



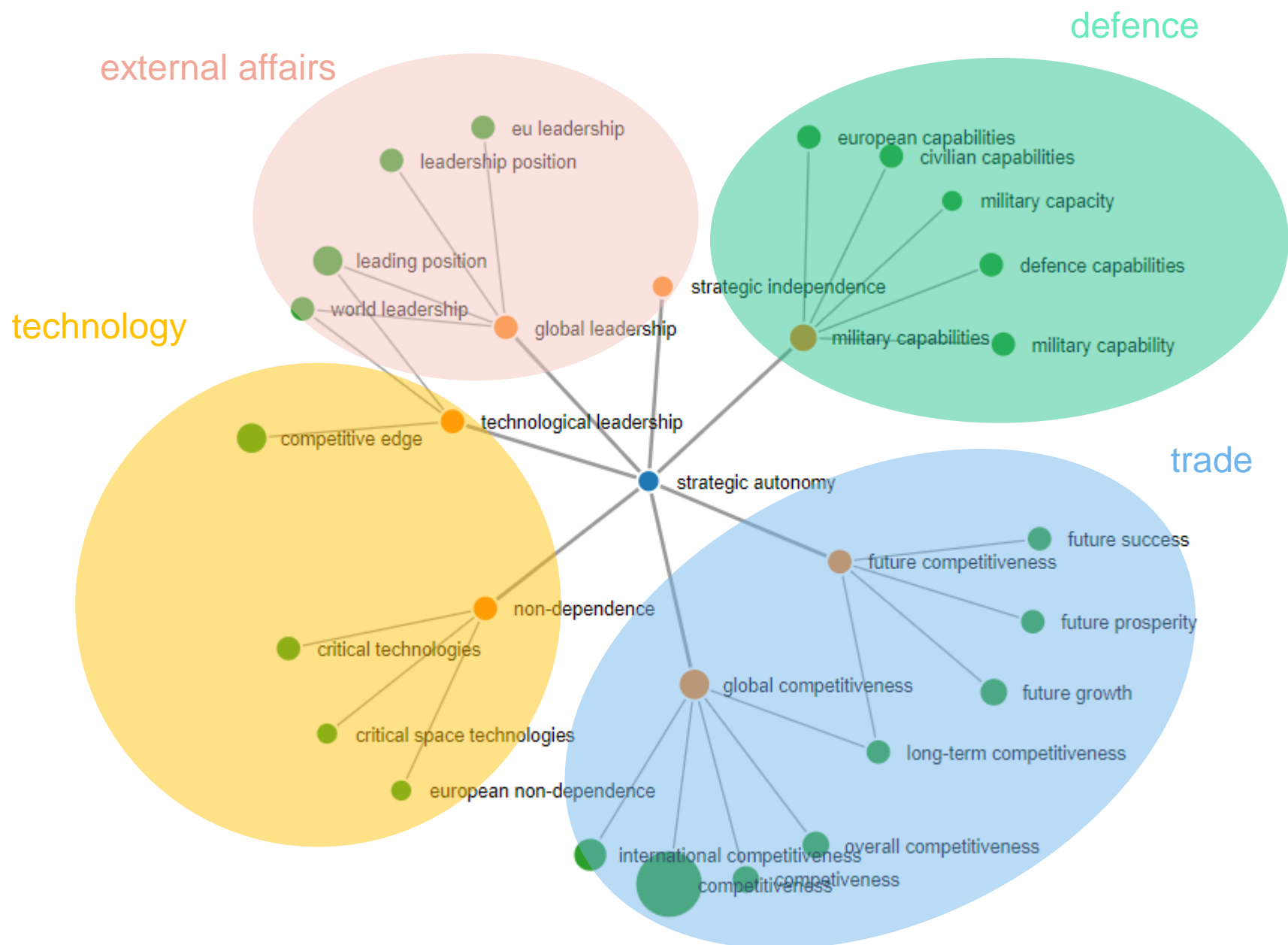
29K documents



67K documents



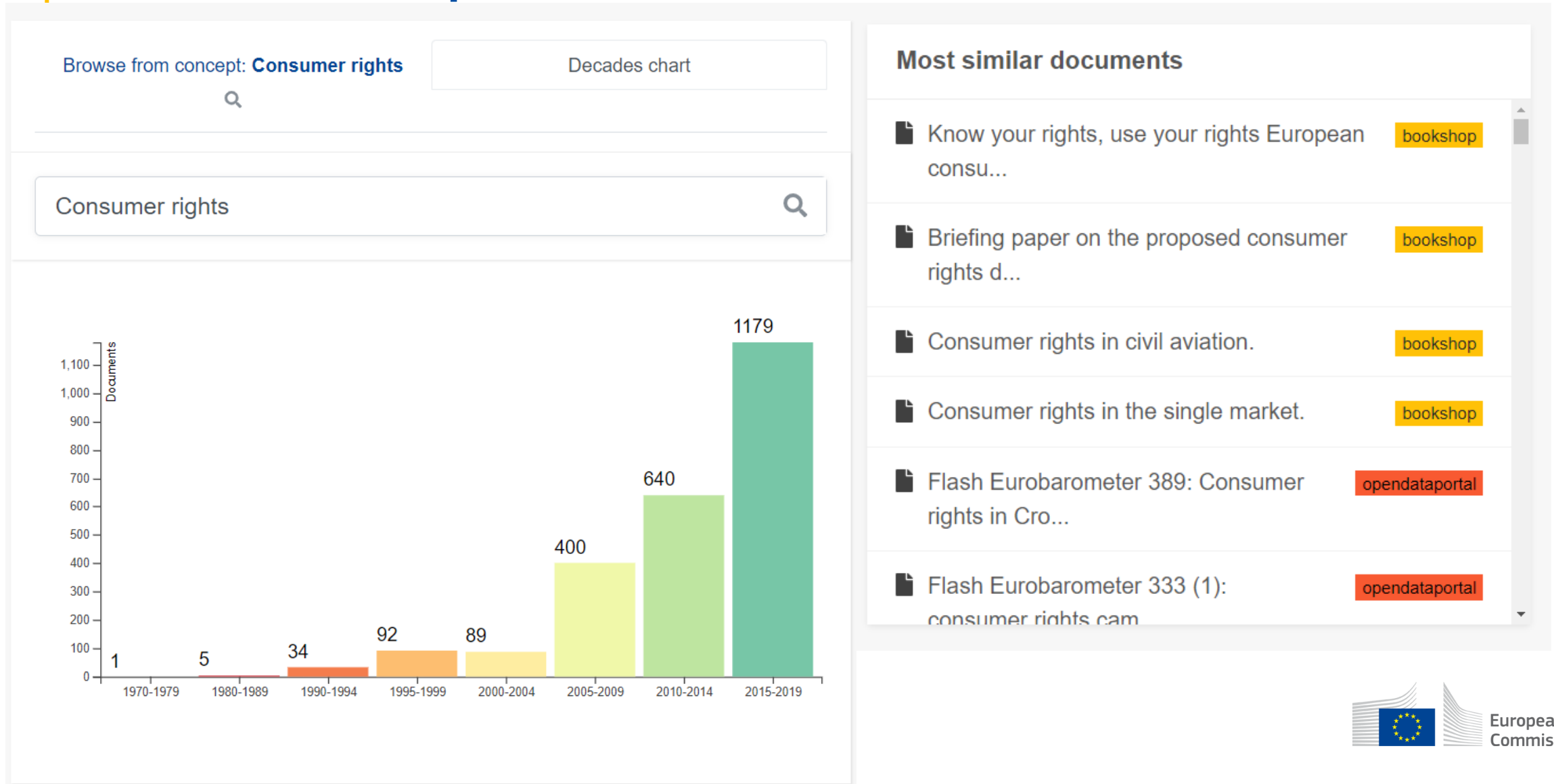
<https://ec.europa.eu/jrc/en/publication/semantic-text-analysis-tool-seta>




SeTA example : horizontal policy analysis (1/2)



SeTA example : horizontal policy analysis (2/2)



SeTA example : search for legislative modernization (1/3)

**SeTA - Semantic Text Analyzer**














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courier × "registered mail" × "normal mail" × "regular post" × "certified mail" × AND × reporting ×

"annual reporting" × "regular reporting" × notify × communicate × inform × + Add new item...

advise "provide information" consult examine transmit reassure informing submit send informs convince warn publish

☐ Expand All

 Resources	Date	Title
>   	2014	Commission Implementing Regulation (EU) No 680/2014 of 16 April 2014 laying down implementing technical standards with regard to supervisory reporting of institutions according to Regulation (EU) No 575/2013 of the European Parliament and of the Council Text with EEA relevance
>   	2009	Commission Regulation (EC) No 250/2009 of 11 March 2009 implementing Regulation (EC) No 295/2008 of the European Parliament and of the Council as regards the definitions of characteristics, the technical format for the transmission of data, the double reporting requirements for NACE Rev.1.1 and NACE Rev.2 and derogations to be granted for structural business statistics (Text with EEA relevance)
>   	2017	Commission Delegated Regulation (EU) 2017/2361 of 14 September 2017 on the final system of contributions to the administrative expenditures of the Single Resolution Board
>   	2014	Regulation (EU) No 468/2014 of the European Central Bank of 16 April 2014 establishing the framework for cooperation within the Single Supervisory Mechanism between the European Central Bank and national competent authorities and with national designated authorities (SSM)



SeTA example : search for legislative modernization (2/3)

Advanced Search

Document reference

- | | | |
|---|---|---|
| <input type="checkbox"/> Regulation ? | <input type="checkbox"/> Decision ? | <input type="checkbox"/> Directive ? |
| <input type="checkbox"/> Treaties ? | <input type="checkbox"/> International Agreements ? | <input type="checkbox"/> Consolidated Legislation ? |
| <input type="checkbox"/> Preparatory Acts ? | <input checked="" type="checkbox"/> Primary Legislation ? | <input type="checkbox"/> EU Court Case ? |
| <input checked="" type="checkbox"/> Secondary Legislation ? | <input type="checkbox"/> Financial Regulation ? | <input type="checkbox"/> Recommendations ? |

+ Add new item...

In force

YES

Eurovoc

- > ☐ EUROPEAN UNION
- > ☐ LAW
- > ☐ ECONOMICS
- > ☐ TRADE
- > ☒ FINANCE

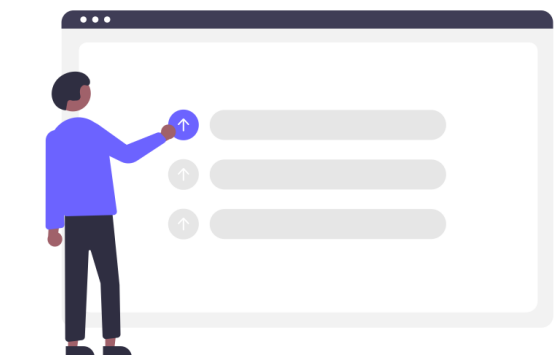


Image credit : undraw.co

SeTA example : search for legislative modernization (3/3)



2013

Commission Delegated Regulation (EU) No 1083/2013 of 28 August 2013 establishing rules related to the procedure for temporary withdrawal of tariff preferences and adoption of general safeguard measures under Regulation (EU) No 978/2012 of the European Parliament and the Council applying a scheme of generalised tariff preferences

Collection: Legal acts
Subject Type: Preferential systems
Date: 2013-08-28

Document reference: Delegated regulation
In force: true
Source: eurlex

Eurovoc concepts: information and information processing , tariff policy , European Union law , trade policy , tariff policy

Text snippets:

with the accompanying documents shall be submitted to the Commission's mail reception service: Central mail service (Courrier central) Bâtiment DAV1 Avenue du Bourget 1/Bourgetlaan 1 1140 Bruxelles/Brussel BELGIQUE/BELGIË The request shall be deemed to have been lodged on the first working day following its delivery to the Commission by **registered**

mail or the issuing of an acknowledgement of receipt by the Commission.

As soon as the agreement of the economic operators concerned has been obtained the Commission should **notify** the authorities of the exporting country of the names and addresses of the ecc be verified during verification visits and of any information which needs to be p



2014

Commission Implementing Regulation (EU) No 938/2014 of 2 September 2014 initiating an investigation concerning the possible circumvention of anti-dumping measures imposed by Council Regulation (EU) No 502/2013 on imports of bicycles originating in the People's Republic of China by imports of bicycles consigned from Cambodia, Pakistan and the Philippines, whether declared as originating in Cambodia, Pakistan and the Philippines or not, and making such imports subject to registration

Collection: Legal acts
Subject Type: Dumping
Date: 2014-09-02

Document reference: Implementing regulation
In force: true
Source: eurlex

Eurovoc concepts: Asia and Oceania , economic geography , economic geography , Asia and Oceania , trade , land transport , economic geography , Asia and Oceania , European Union law , competition , international trade , Asia and Oceania , economic geography

Text snippets:

(5) Interested parties are invited to make all submissions and requests by e-mail including scanned powers of attorney and certification sheets, with the exception of voluminous replies which shall be submitted on a CD-ROM or DVD by hand or by **registered mail** .

Once contact details are provided, the Commission will **communicate** with interested parties by e-mail only, unless they explicitly request to receive all documents from the Commission by another means of communication or unless the nature of the document to be sent requires the use of a **registered mail** .

SeTA Next Steps

- SeTA as a Policy Analysis tool : evolve the interface with requirements from European Commission Colleagues
- SeTA as a Knowledge Discovery platform : refactor the ingestion pipeline so that it can be easily deployed
- Further research on Semantic Analysis : multilingual models, sentence/paragraph-level similarity, ...

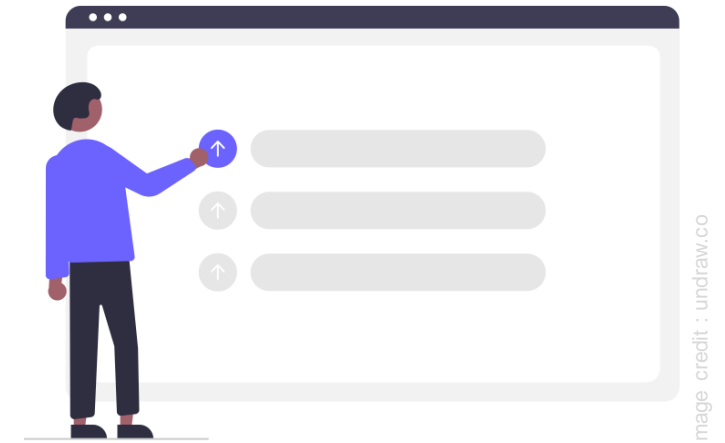


Image credit : undraw.co

Thank you
for your
attention

JRC-TMA-CC@ec.europa.eu



SeTA Demo



European
Commission

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Image credit : undraw.co



European
Commission

Reserve slides (in case of no demo)