

REQUEST FOR SERVICES

*European Commission,
DG Internal Market, Industry,
Entrepreneurship and SMEs
Directorate C, Unit C3*

REQUEST FOR SERVICES FOR TECHNICAL SUPPORTING STUDY

**TO ASSESS THE STATUS OF WIRELESS CHARGING TECHNOLOGIES USED FOR MOBILE PHONES
AND SIMILAR PORTABLE ELECTRONIC EQUIPMENT AND NEXT EXPECTED MAIN
TECHNOLOGICAL DEVELOPMENTS IMPLEMENTING FRAMEWORK CONTRACT
575/PP/2016/FC**

1. BACKGROUND OF THE STUDY

1.1. Overall purpose and justification

The common charger¹ initiative

In June 2009, following a request from the European Commission, major producers of mobile telephones agreed to sign a Memorandum of Understanding (“MoU”) to harmonise chargers for data-enabled mobile telephones sold in the EU.

The MoU ensured that citizens could benefit from reliable, energy-efficient and safe chargers, whether the smartphones’ manufacturers provided them or they were sold as standalone products.

The MoU expired after two letters of renewal in 2014, and the Commission started fostering the adoption of a new voluntary agreement. In 2018 the Commission received from the mobile manufacturers a new voluntary agreement², but there was no endorsement from the Commission as the proposal was considered not to fulfil the request of the co-legislators in Article 3(3)(a) of the Radio Equipment Directive (RED)³, as it would still allow for different charging solutions and therefore not guarantee full interoperability between mobile phones.

A study carried out on behalf of the Commission⁴ (IA study) in 2019 provided an assessment of the likely impacts of a set of policy options for a possible new initiative and assessed qualitatively a number of impacts. The focus of the study was on chargers interfaces for

¹ More information relevant to the common charger is available at

http://ec.europa.eu/growth/sectors/electrical-engineering/red-directive/common-charger_en

² <http://www.digitaleurope.org/Press-Room/Latest-News/News-Story/newsID/717>

³ Radio Equipment Directive (RED) 2014/53/EU - <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0053&locale=en>

⁴ Impact assessment study on common chargers of portable devices <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/c6fadfea-4641-11ea-b81b-01aa75ed71a1>

mobile phones, and specifically on technical options to work towards a “common” charger and their likely social, environmental and economic impacts. Although the introduction of new technologies since the introduction of the common charger was briefly analysed, specific aspects such as wireless charging requires further evidence and support.

Main scope of the study

According to the IA study, a number of important technological developments have taken place since 2009, when the common charger for smartphone was first conceived, that have improved the performance of charging solutions and introduced new technologies to consumers. The main one is definitely the possibility to recharge wirelessly.

The EP resolution of 14 January 2020⁵ *points out that the use of wireless charging technology entails additional potential benefits such as mitigating e-waste; highlights that many mobile telephones already use wireless charging methods and that fragmentation in this area should be avoided; calls, therefore, on the Commission to take measures to best ensure the interoperability of different wireless chargers with different mobile radio equipment.*

The Commission Work Programme foresees adoption of an initiative on common charger in Q1 2021. In this context, the main objective of the study is to integrate those new aspects.

Specifically, the technical supporting study’s purpose is to assess the technologies being used for wireless charging of mobile phones, their degree of compatibility between different brands, and the expected technical evolutions. The study shall extend analysis by defining other classes of products that could technically fall under the initiative, such as tablets, cameras, e-readers, notebooks, etc., therefore defining technical requirements for wireless charging.

1.2. Policy context of the initiative

Legal context of the initiative

Given the new dimension of the ‘common charger’ initiative, that extends aspects previously limited to the physical charging interfaces, the safety of the chargers as a whole and other aspects related to electromagnetic compatibility risks, there is now need to integrate new technological aspects such as wireless charging and environmental and energy efficiency related aspects (the latter being the scope of another parallel study).

At this point of time, two main legislative options exist:

- 1) A new legal act regulating both aspects (adopted in ordinary legislative procedure);
- 2) A multi-step strategy that might comprehend (i) the amendment of certain provisions of RED 2014/53/EU for regulating the aspects of interoperability (co-decision); (ii) implementing Ecodesign Regulations at product specific level foreseeing requirements with bonus/allowances for products sold without charger and iii) further regulatory actions on decoupling.

⁵ https://www.europarl.europa.eu/doceo/document/RC-9-2020-0070_EN.html

2.1 Tasks of the study

Task 1: collection of data related to wireless charging solutions:

The contractor shall in particular report the following issues:

Smartphones:

- an updated analysis of the market of smartphones using wireless charging;
- an in-depth analysis of the wireless charging solutions being actually used by the main producers, with detailed technical indications (protocols, current and other physical requirements, etc.);
- a technical analysis of factors potentially limiting interoperability for wireless charging, and indications how such limitations could be removed/limited.

Other small portable electronic devices requiring similar charging capacity such as tablets, notebooks, GPS receivers, radio controlled toys, smartwatches, cameras, Bluetooth speakers, etc.:

- an updated analysis of the market (main figures and trends) of small portable electronic devices using wireless charging;
- an analysis of the wireless charging solutions being actually used by the main producers;
- an analysis of the compatibility of those wireless charging solutions for use with smartphones and other classes of products.

Task 2: technical requirements for improving interoperability of wireless chargers.

The study shall provide an analysis of factors limiting interoperability of wireless charging within a same class of products (i.e. smartphones, tablets, etc.) and between different classes of products (i.e. smartphones and tablets, smartphones and cameras, etc.).

The study shall finally provide indications on whether factors limiting interoperability could be removed, and how.

Based on the technical analysis, the contractor will propose a list of products that could fall under the initiative

2. APPROACH AND METHODOLOGY

The contractor shall ensure robustness of information by trying to acquire it from more than one source. In particular findings from consultations should be complemented when possible by official statistics and studies.

The contractor must support findings and conclusions by explaining the degree to which these are based on opinions, analysis and objectively verifiable evidence. Where opinions are the main source, the degree of consensus and the steps taken to test the opinions should be given.

The contractor will have a free choice as to the methods used to gather and analyse information and for making the assessment, but must take account of the following tools for data collection and data analysis.

The tasks to be delivered shall be fully in accordance with the Commission Better Regulation Guidelines and Better Regulation Toolbox⁶. The choice and a detailed description of the methodology must form part of the offer submitted. Advantages, limitations and risks involved in using the proposed tools and techniques should be explained.

2.3 DATA COLLECTION TOOLS

2.3.1 *Desk research/ literature review*

The contractor should collect data and information from a wide range of publicly available sources, including, among other:

- Studies and other reports;
- Relevant academic research;
- Other relevant consultations reports/studies on the fields;
- National/international official statistics;
- Qualitative and quantitative analysis of existing data (e.g. market data);
- Structured analysis of the provisions of the legislation and of its implementation;
- Analysis of existing documents.

2.3.2 *Interviews*

The contractor shall carry out a number of structured/semi-structured interviews. Whereas most interviews could be done via phone or video conference, face to face interviews will be needed at an early stage to get a better understanding of the sector. Further interviews may be needed when analysing the information received via the targeted and public consultation.

The Commission may issue a Recommendation Letter that the Contractor will be able to present to approached stakeholders.

In conducting the interviews the Contractor shall respect data protection and privacy standards of the Commission. The responses and transcripts of interviews shall be given to the Commission.

The selection of interviewees should be based on their knowledge of the subject and should be agreed with the Commission service.

⁶ <https://ec.europa.eu/info/sites/info/files/better-regulation-guidelines.pdf> and http://ec.europa.eu/smart-regulation/guidelines/docs/br_toolbox_en.pdf

Interviews should be conducted with

- Selected representatives from organisation of stakeholder's categories (Industry and SMEs, etc.)
- Field experts
- Relevant National Administration, Notified Bodies, Standardisation Authorities

The approximate overall number of interviews that the contractor is expected to conduct is around 20, either as face-to-face or as remote interviews.

2.3.3 Purchase of commercial data/statistics

For the purpose of conducting the study the contractor may create or purchase access to external databases. The contractor should be able to assess the quality and completeness of data in such database.

Any database purchased for the purpose of this study will become property of the European Commission, together with all documentation and access rights.

Any database created for the purpose of this study will become property of the European Commission; the datasets should be accompanied by a clear documentation explaining all the variables and be presented in the format specified in the inception phase.

All source-codes and/or spreadsheets used for the statistical/econometric analysis have to be shared and will become property of the European Commission.

2.3.4 Quality of the collected data

The data collection process as well as all data and statistics that are part of the study should be clearly and exhaustively described so that the users are able to (a) assess the quality of these data/statistics, (b) interpret them in a consistent way and (c) replicate their methodology in the future. For that purpose each data collection process carried out by the contractor should include the following information as a minimum:

- Objective of the exercise
- Target population and sampled population
- Data (variables) to be collected
- Degree of precision i.e. are there some missing data or breaks in time series?
- Collection mode, i.e. how will the data be collected (by email, web platforms, dedicated application)
- Periodicity/frequency of a process i.e. is it a one-off exercise or a regular one?
- Validation
- Publication format (i.e. in plain text, CSV files or Excel)

- Metadata i.e. what background information about the data I need to disclose to the public:
 - Data collection methodology;
 - Target population;
 - Sampled population;
 - Glossary and definitions of indicators/variables and their respective measurement units;
 - Codes, acronyms, flags used (those should normally be harmonised with Eurostat codes, e.g. two-letter country codes);
 - The timing and frequency of data collection;
 - The publication date;
 - Limitations, confidentiality issues, disruptions of methodology etc.
 - Contact point for potential questions and comments from the public.

3. AVAILABLE INFORMATION AND DATA SOURCES

The following documentation and information is an input for the contractor to develop the work:

- The Commission website on the Electrical and Electronic Engineering Industries⁷
- Legal text of the Radio Equipment Directive 2014/53/EU: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0053>
- The Commission website on the Radio Equipment Directive website⁸ including, the RED Guide,⁹ documents adopted or endorsed by the Telecommunication Conformity Assessment and Market Surveillance Committee (TCAM)¹⁰, FAQs, reports, information documents, and Commission's opinions under the framework of RED: http://ec.europa.eu/growth/sectors/electrical-engineering/red-directive_en
- Specific web page on common chargers campaign, with links to main activities and previous study: http://ec.europa.eu/growth/sectors/electrical-engineering/red-directive/common-charger_en .

⁷ http://ec.europa.eu/growth/sectors/electrical-engineering/ec-support_en

⁸ http://ec.europa.eu/growth/sectors/electrical-engineering/red-directive_en

⁹ <http://ec.europa.eu/docsroom/documents/2332>

¹⁰ TCAM public documents are also available on

https://circabc.europa.eu/faces/jsp/extension/wai/navigation/container.jsp?FormBanner:_idcl=pageTitle&FormBanner_SUBMIT=1&org.apache.myfaces.trinidad.faces.STATE=DUMMY&id=75ddbd4d-d635-4fb8-93cd-571f720964e4&javax.faces.ViewState=alk923rFtjjsXYBzv52NJxj1FTicD%2Fz7maFaTJO4OkA3ynYZPKE4jA8A6wpOwkyBXvKWLOzC%2FchLERx9Qbivqb8QFh%2FBj4EdchZdS7pRBhvdnn6F1frGPeCRoS8YGY9w1VbbJdPafgGh95gr5qc1LvdsOAY%3D

- Website on Administrative Cooperation Groups (AdCos)¹¹, including reports from the ADCO RED.
- ICSMS (Information and Communication System for Market Surveillance) – an internet-supported information and communication system for the pan-European market surveillance: <https://webgate.ec.europa.eu/icsms>

Background documents:

- Memorandum of Understanding (MoU) 2009 (Annex 1)
- Annex I: List of Signatories (Annex 2)
- Annex III: Guide on Implementation of Requirements of the Common external power supply (Annex 3)
- Mandate M/455 on a common charging capability for mobile phones (Annex 4)

Previous evaluations and other reports

On common charger:

The Commission recently performed a study to consider an appropriate legislative approach on common chargers. The study analysed the impact of a common charger solution on consumers, the industry and the environment with assessment and guidance for possible implementation of different policy options. Nevertheless, specific aspects linked to de-coupling were suggested but not assessed in detail.

- Impact assessment study on common chargers of portable devices (Ipsos and Trinomics, with support from Fraunhofer FOKUS - on behalf of a consortium led by Economisti Associati)¹²

A 'Study on the impact of the MOU on harmonisation of chargers for mobile telephones' was performed in 2014. The main objective of that study was to evaluate the results achieved with the MoU in the 2009-2013 period, to analyse how the stated objectives to delivering benefits for consumers and for industry and to reducing electronic waste were achieved, and to provide elements in view of considering options for follow-up.

- Study on the impact of the MOU on harmonisation of chargers for mobile telephones and to assess possible future options (RPA Risk & Policy Analysts - 22 August 2014)^{13,14}
- Study on the common charger 2.0 (RPA, December 2019)

¹¹ https://ec.europa.eu/growth/single-market/goods/building-blocks/market-surveillance/organisation/administrative-cooperation-groups_en

¹² Impact assessment study on common chargers of portable devices <https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/c6fadfea-4641-11ea-b81b-01aa75ed71a1>

¹³ Executive summary <http://ec.europa.eu/DocsRoom/documents/7431/attachments/1/translations>

¹⁴ Final report <http://ec.europa.eu/DocsRoom/documents/7432/attachments/1/translations>

Impact assessment study on de-coupling

The common charger initiative could deploy significant environmental benefits if combined with measures aimed at the re-use of existing chargers, such as unbundling the chargers from phone sales (de-coupling). The EP resolution of 14 January 2020 required the Commission to take regulatory action to implement a common charging solution.

In order to answer to the new policy objectives and the resolution's requests, an ad-hoc impact assessment study is being commissioned to provide factual support to those aspects and to analyse policy options supporting a possible legal implementation. That IA study is expected to start in September 2020.

In order to make sure that interlinks between the two studies are coherently addressed and that the same assumptions when analysing market data are used, coordination with the contractor who will carry out that IA study will have to be ensured.

4. COMMISSIONING BODY AND PUBLICATION

The present technical supporting study is commissioned by Unit C3 of DG Internal Market, Industry, Entrepreneurship and SMEs.

The steering group contributes to the development of the evaluation project and is part of its management structure. The steering Committee for the present evaluation is composed by representative of DG GROW (C3, C1 and A1), SG, DG CNECT, DG COMP, DG ENER, DG ENV, DG JRC, DG JUST, DG TRADE.

The results may be shared with other interested bodies inside and outside the European Commission.

5. REPORTING AND DELIVERABLES

5.3.1 General reporting requirements

The contractor shall provide the required reports and documents in accordance with the timetable below.

The contractor must ensure that all deliverables under this contract are clear, concise and focused on their purpose. All deliverables shall be written in English, reviewed and corrected by a native speaker before submission.

Electronic files must be provided in (*specify, e.g. Microsoft® Word*) format. Additionally, besides Word, the Final Report must be delivered in pdf format and in 3 hard copies.

All deliverables are presented as draft documents to be discussed with the Steering group and finalised based on the comments received from Commission services.

The Commission shall have 30 days to approve or reject the report. The contractor shall have 30 days in which submit additional information or a new report.

5.3.2 Deliverables

For the purpose of this specific contract, the following deliverables will need to be produced:

Deliverable 1 (D1)	At the latest 20 working days after signature of the contract by the last contracting party
An inception report (around 10 pages) will specify the detailed work programme and planning for the study and describe the methodological approaches and working assumptions to be used for the tasks defined. The report will also identify any additional needs.	
Deliverable 2 (D2)	At the latest 40 working days after signature of the contract by the last contracting party
An progress note will summarise results reached until that moment and raise any problems encountered with sufficient information to permit reorientation if appropriate and required. It will give indications and planning of the work to be carried out during the rest of the period of completion of the tasks.	
Deliverable 3 (D3)	At the latest 2 months after signature of the contract by the last contracting party
A draft final report will be delivered to the Commission, taking account of the comments made earlier on in the process. It will cover all points of the work plan and shall include sound analysis of findings and factually based conclusions, in line with the purpose and objectives described above.	

The Commission will accept the draft final report in the definitive form or comment on it within 20 days of its reception. If the Commission does not react within this period, the final study shall be deemed to have been approved.

Should the Commission still not consider the final report acceptable, the Contractor will be invited to amend until the Commission is satisfied within 30 days. In cases of late delivery, the Commission reserves its right to apply the corresponding liquidated damages according to the provisions of Article II.15 of the Framework Contract. The Interservice Steering Group reserves the right to carry out a quality assessment of the final report and publish it along with the study.

Deliverable 4 (D4)	At the latest 4 months after signature of the contract by the last contracting party
The final report (Annexes to the final report will include any graphical material, the main bibliographic and information sources, verbatim of interviews.	

The Commission shall have 30 days to approve or reject the reports. The contractor shall have 30 days to submit additional information or a new report.

Deliverable 5 (D5)	At the latest 5 months after signature of the contract by the last contracting party (submitted as annex to D5)
All the data collected under this contract, as well as all the summaries, analyses, underlying calculations and findings, which will be the property of the Commission and must be handed over in the agreed format.	

6. PUBLICATIONS

The study (including executive summary, abstract, annexes) will be published on the DG Internal Market, Industry, Entrepreneurship and SMEs internet site, on the [EU Bookshop website](#) and on other web-sites in relation to the study.

In view of its publication, the final report must be of high editorial quality. In cases where the contractor does not manage to produce a final report of high editorial quality within the timeframe defined by the contract, the contracting authority can decide to have the final report professionally edited at the expense of the contractor (e.g. deduction of these costs from the final payment) according to Article II.16 of the framework contract.

7. WORK ORGANISATION

7.1 Meetings with the Commission

The contractor is expected to take part in maximum 4 meetings with the Commission services which will take place on Commission premises in Brussels¹⁵.

- a kick-off meeting at the beginning of the study;
- a final meeting;

The 'kick-off' meeting will allow for the discussion of the draft outline approach and work programme elaborated by the contractor for the execution of the contract.

The 'final' meeting will allow an in-depth discussion of the draft final report and requirements for the completion of the Final report.

¹⁵ During the COVID crisis period, rules on gatherings meetings will be in line with the rules adopted by the host Member State, taking into account the recommendations of the relevant health authorities and of the Medical Service.

7.2 Work Plan

The contract shall enter into force on the date on which it is signed by the last contracting party.

It is expected to be signed by September 2020. The provision of the services shall not exceed 6 months.

Given the time constraints, a correct project planning and men allocation will be considered crucial for the successful completion of the project.

Deliverables (D), Meetings (M), and Payments (P)	Deadline
M1: Kick-off meeting with the Commission in Brussels D1: Inception report P1: Interim payment	20days
D2: Progress note	40 days
D3: Draft final report	2 months
D4: Final report M2: Final meeting with the Commission in Brussels	4 months
D5: Executive Summary of the final report D5: All data collected P2: Final payment	5 months

7.3 Proposed team

Total days	
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Task	Name	Role in the team	Staff Category	Expertise	Languages	Unit price	Man days
			Cat. I - Team Leader				
			Cat. II - Senior Consultant				
			Cat. III - Junior Consultant				
			Cat. IV				

The tender must include a description of the proposed team, its composition, its expertise and the work effort planned for each member in terms of man/days for each task of the project.

8. PRICE

The maximum budget available for this project is €50,000

The offer must include a detailed proposed budget. The tenderer should provide a quote of the total cost of the services to be provided (fixed price) in its financial tender following the table below:

<i>Price component</i>	<i>Staff category</i>	<i>Unit price</i> <i>(= daily rate for Human Resources including the travel and subsistence expenses linked to the five meetings with the Commission on its premises in Brussels)</i>	<i>Quantity</i> <i>(= number of man days devoted to the project by person XY for Human Resources)</i>	<i>Total</i>
Human resources				
Person X (name and a role)				
Person Y (name and a role)				
.....				
Subtotal (1)				
Other				
Item X				
Item Y				
.....				
Subtotal (2)				
TOTAL (1+2)				

9. PAYMENTS

The payment scheme will consist of

- **one interim payment**, corresponding to a **maximum of 30 %** of the price specified in article 3.1 of the specific contract;
- a **balance payment** corresponding to **70 %** of the amount specified in article 3.1 of the specific contract;

The schedule and the procedure for the approval of payments and the documents to be submitted are described in Articles I.6, II.21, II.22 and II.23 of the framework contract.

10. AWARD OF THE SPECIFIC CONTRACT

As specified in the tender specification for this FWC, the offers submitted within the re-opening of competition must contain:

- a) **A technical part**, detailing the methodology, the composition and skills of the team and the responsible team leader for the specific agreement;
- b) **A financial part** detailing the number of man-days to be multiplied by the man-day price as defined in the Framework Contract, and other cost items.

The Specific Contract will be awarded according:

- to the qualitative award criteria given below,

AND

- to the price of the financial tenders.

The formula used to rank tenders and to calculate which tender is the most economically advantageous tender is displayed in section b) below.

A) TECHNICAL QUALITATIVE AWARD CRITERIA

No	Qualitative award criteria	Weighting (maximum points)
1	<p>Clarity, relevance and coherence</p> <p><i>This criterion will assess whether the offer is written in a clear language, whether it is well and logically structured, whether all the information requested in the specific contract is duly covered.</i></p>	0-5
2	<p>Quality of the proposed mechanisms for project management, including quality control, risk management and reporting</p> <p><i>This criterion will assess the quality control system proposed for the services foreseen in the offer concerning the quality of deliverables, the language quality check, continuity of the service in case of absence of a member of the team, as well as the overall project management (organisation of work, contacts with the contracting party etc.). This quality control system should be detailed. A generic quality control system will result in a low score.</i></p>	0-15
3	<p>Balance of profiles and breakdown of tasks</p> <p><i>This criterion will assess how the roles and responsibilities of the proposed team and of the different economic operators (in case of joint tenders, including subcontracting if applicable) are distributed for tasks specified in individual Terms of Reference for specific contracts. The tender should provide details on the rationale behind the choice of this allocation.</i></p>	0-20
4	<p>Relevance and quality of the methodologies to carry out data collection</p> <p><i>This criterion will assess how the tenderer will collect data.</i></p>	0-25
5	<p>Quality of the proposed methodology to carry out data analysis</p> <p><i>This criterion will assess how the tenderer will analyse the available and collected data.</i></p>	0-35
Total number of points		100

The award criteria cannot be further supplemented during the evaluation procedure.

Only tenders that have reached a total score of a minimum of 60% and a minimum score of 50% for each criterion will be taken into consideration for awarding the specific contract.

B) AWARD METHOD

The contract will be awarded to the tender which is the most cost-effective (offers the best value for money) on the basis of the ratio between the total points scored and the price using the following formula:

Score for tender X	=	<u>Lowest price*</u> Price of tender X	*	100	*	Price weighting (30%)	+	Total quality score (out of 100) for all award criteria of tender X	*	Quality criteria weighting (70%)
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* Only tenders passing minimum quality levels are ranked. The lowest price refers to the lowest price among the tenders that have passed the minimum quality levels.