



**INVITATION TO  
MED-TSO TENDER FOR:**

**Execution of Network Studies**

TEASIMED Project  
General Technical prescriptions  
and application procedures



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## **PART A - Technical Specifications**

### **1. Introduction**

Med-TSO, the Association of the Mediterranean Transmission System Operators for electricity, is a legally recognized association established in Rome on April 19 2012, involving the Mediterranean companies performing the activity of transmission system operators (hereinafter “TSO”) for electricity.

Med-TSO has its legal headquarters at Terna S.p.A., in viale Egidio Galbani 70, 00156 Rome - Italy and its Operational Headquarters at Terna S.p.A., in via della Marcigliana, 911 - 00138 Rome – Italy. This tender is launched in the frame of the TEASIMED (Towards an Efficient, Adequate, Sustainable and Interconnected MEDiterranean- power system) Project - ENI/2020/417-547 (hereinafter the "Project"), developed through a Grant Contract, signed between Med-TSO and the European Commission in 2020.

The development of TEASIMED Project, structured at a local level, requires multilateral cooperation, not only among electricity companies but also between institutions (National Institutions, Regulators and IFIs) and companies.

The activities to be carried out by the selected consulting company are a relevant part of Activity 1 of the Project, which has the final objective to identify grid situation in the Mediterranean and develop the Mediterranean Master Plan of Interconnections. Task 1.1 is developed by Med-TSO Technical Committee TC ‘Planning’, using as an input the results of the Market Studies performed by the Med-TSO Technical Committee ESS (“Economic Studies and Scenarios”). TC Planning will be the technical counterpart of this tender mandated by the Association for:

- Guide and follow up External Expert (consisting of a team of experts, hereinafter EE).
- Organize the work schedule with the External Expert;
- Coordinate between external Expert and TSO members, through the Single Point of Contact (SPoC) identified within MedTSO members;
- Monitor and validate all the steps of the Workplan (see chapter 4);
- Give the validation of the final technical report.

### **2. Object and scope of the tender**

The activities addressed by this tender refer to the undertaking of Network Studies on the Mediterranean transmission grids, to be carried out by load-flow calculations, including the calculation of reinforcement and costs of thermal losses. These calculations will be performed based on a regional perimeter network analysis, to be defined between the contracted External Expert (EE)



and TC Planning. For a more efficient work coordination, these calculations will be performed by the selected EE, with the support of Med-TSO resources (members of TC Planning and Regional Groups West and East of Med-TSO), and not separately by each TSO.

The main goal of the activity is to evaluate the benefit and the impact of new interconnections in terms of:

- capacity offered by the new interconnection project;
- assessment of the additional exchanges;
- identification of the internal reinforcements necessary to allow the additional exchanges on the new interconnections and the estimation of their costs;
- estimation of the cost for the new facilities (lines, cables, substations, converter stations);
- estimation of the thermal electric loss variations induced by the new interconnections;
- elaboration of individual deliverables (e.g. booklet, presentation, etc. to be agreed with MedTSO coordination team) for each interconnection project containing the available data, assumption, criteria and the results
- elaboration of a report including all the results of the network studies carried out.

As the main objective of the study is to analyze the new interconnection projects, the related internal reinforcements should be identified, and their investment cost should also be estimated. Other internal reinforcements foreseen in the national development plans of Mediterranean countries and/or resulting from the generation forecast at the year horizon 2030, although included in the reference grid when deemed relevant to carry out network studies, will not be analyzed by this activity.

In principle, the Med-TSO area will be split in 2 parts, Western and Eastern, but more parts could be considered as proposed by the EE or later by MedTSO members.

This subdivision should be considered by the EE (along with the relevant information received by TC Planning and TC Economic Studies & Scenario, ESS, for Market Studies) in order to prepare a final proposal on the geographical splitting of the whole Med-TSO area (regional or other) to be considered in this activity. Also, the EE must ensure the provision of an adequate number of resources to be able to carry out network analysis for the different identified Med-TSO areas in parallel (e.g. in case of 2 areas, 2 groups of resources able to work in parallel and senior staff able to coordinate activities and report to MedTSO members).

Fourteen clusters (i.e. the ensemble of lines and other equipment associated to each possible interconnection) are considered by TC ESS in the Market Studies. Analogously, the EE will carry out the network studies considering all the clusters assessed in the market simulations, in order to evaluate the impact and the new reinforcements required on the grids.



The proposed clusters will be finalized by TC Planning, in terms of topology and transmission capacity, taking into account also the results of the TC ESS. Furthermore, the final number of clusters/interconnections will be decided by Med-TSO at a later stage.

**The EE should present a base offer for assessing the 14 clusters; an extra cost should be also quoted for each additional cluster which might be added by Med-TSO in later stages.**

The final report of this activity will be a Mediterranean Master Plan of Interconnections, where, in addition to the interconnection solutions, the necessary improvement and internal reinforcements (due to the studied interconnection) in the networks of Med-TSO countries will be presented, together with all the costs associated to each studied cluster.

As referred above, the purpose of this call for tender is the execution of a set of Network Studies by the selected EE, based on load flow calculations, with the aim to assess the adequacy of the interconnected Mediterranean network in terms of transmission capacity.

In order to proceed with the analysis, the following activities shall be carried out by the EE:

1. **Building of the network model(s)** - Build the reference network model of the interconnected Mediterranean system on a regional basis (one model for each of the identified regions or sub-regions), based on the merging of national grid models and considering the planned reinforcements of internal grids and interconnections, which are provided by the Members. The level of detail of the grid data/models to be provided by Med-TSO shall be proposed by the EE and approved by Med-TSO. An indication of this level of detail will have to be included in the technical offer and then finalized at the beginning of the data collection activities. National grid models shall be provided by the Members in the format used by each of them, or, in case of not available data by Med-TSO member, built by the EE, based on the relevant information stored in the Med-TSO DATABASE (DBMED) after SPOC approval. DBMED contains the full detail of the physical grids, as provided by the Members. In case data are neither provided by the Members nor available (because related to inactive counterparts or non-Med-TSO countries), the EE should propose a solution for performing the network studies (based on the EE best estimations and knowledge of the regions). The final solution will be agreed and approved by Med-TSO Members in the initial phases of the project.
2. **Point in Time (PiT) selection** - Identify the most representative power system conditions to be studied, based on the results of the market studies performed by TC ESS and considering the main drivers of the grid constraints. To this aim, the EE is asked to define a methodology for the identification of a set of representative Points in Time (PiTs). Each snapshot shall represent a particular generation/load condition that allows assessing the considered-eligible potential interconnection projects and also the variation of losses associated to each interconnection project (see point 4 below). The program activity included in the base offer shall consider:



- a. at most 9 snapshots per cluster or combination of clusters, taking into account 3 economic scenarios and at least 2 snapshots per each economic scenario. Some combination of scenarios could be also considered;
- b. at least 14 clusters or combination of clusters (in case of combination of clusters, these shall be proposed by the EE and approved by Med-TSO).

The annex “Technical and methodological guidelines” includes a set of guidelines the EE shall use to formalize its methodology for PiT selection which shall be approved by Med-TSO members. The EE is allowed to propose alternative criteria with respect to those included in the annex document, however it must ensure the methodology is flexible enough to take into account adjustments to be proposed by Med-TSO members. It is highlighted that the proposed PiTs shall in fact be approved by Med-TSO members before proceeding with step 3.

In addition to the Minimum Viable Solution based on PiT identification, the EE is invited to provide a separate quotation also for hourly-based simulations for the 8760 hours of the year, to be complemented with details on the network studies to be performed (e.g. AC vs DC) and on the methodology for the identification of reinforcements. The presence of this additional quotation will be positively considered within the “Quality of technical offer” section of the evaluation process.

3. **Performing network studies** - Perform load flow calculations (steady state and contingency analysis), taking into account security criteria, both in normal conditions (N) and in cases of contingencies (N-1 or N-2 or N-x as deemed needed in some situations, according to the practice of each country, as detailed in later stages of the project), with the aim to identify possible criticalities for the interconnected Mediterranean power system. In this context, the contribution of the interconnection project to the resolution of these critical situations will be assessed.
4. **Assessing Internal reinforcements** - Assess internal reinforcements needs (due to each interconnection project), by evaluating the consistency with the National Development Plans produced, according to the following technical and economic criteria.
5. **Finalize CBA data** - Analyze the results of the network studies and investment costs and present them to Med-TSO.
6. **Fine-tuning of results** - Fine-tune the results of the network studies and investment costs, with the support of Med-TSO.
7. **Calculation of power losses** - Power system losses variations will be also calculated as input to the cost benefit assessment of each specific interconnection project. The loss calculation and annualization methodology shall be proposed by the EE and included in the technical offer. This will then be approved by the Med-TSO members during the initial phases of the project. As per the PiTs, the consultant must propose the Default solution with calculation based on a restricted set of snapshots, but is invited to provide quotation also for 8760 hourly based calculation. The presence of this solution will be positively considered within the “Quality of technical offer” section of the evaluation process.
8. **Preparation of final deliverables** - Submit a final report to Med-TSO (once final results have been approved by Med-TSO).



The technical offer from the EE shall include a detailed description of all methodologies and criteria the EE intends to implement to carry out the listed tasks. The EE is invited to follow the methodological guidelines reported in the Annex “Technical and methodological guidelines”.

As anticipated, the activities will be carried out for 14 clusters. However, besides the quotation for the 14<sup>th</sup> clusters, the EE shall include in the economic offer also the extra costs associated to the completion of activities 3-8 for additional clusters (€ per additional cluster).

### **3. *Service Provider profile requirements***

The External expert team must ensure a smooth execution of project activities in line with project deadlines and consistently to the number of parts in which the MedTSO area will be sub-divided. In particular it is required to ensure that network studies for each of the identified parts can be carried out in parallel and supervised by senior staff.

The composition of the EE team shall preferably include profiles with the following requirements:

- University Degree in Electrical Engineering. (PHD or MSC is preferred)
- Experience in the field of Planning and Development of electric power systems.
- At least 10 years of experience in the field of Network Simulation and Studies (Load Flow analysis).
- Proved knowledge of organization and structure of multinational transmission infrastructures.
- Experience in System Planning and Development within ENTSO-E and/or the Mediterranean Region.
- Experience in a high-level Team in EU or Mediterranean projects in the Electricity Sector.
- Proved knowledge and experience in the use of computational tools for Power System Simulation and Analysis, such as PSSE, SPIRA, DigSilent, Convergence or Common Grid Model Exchange Standard (CGMES).
- Proved experience in long/short term coordinated planning and development of transmission system and management of interconnections in the integrated electricity market.
- Proved experience in the development of national and/or regional Master Plans at ENTSO-E or Mediterranean level.
- Leadership and communication skills.
- Experience in working in EU financed projects is considered an asset.
- Very Good knowledge of English (knowledge of French and/or Arabic is a plus)

The EE shall specify the composition of the team which will execute each activity of the project.

### **4. *Activities, deliverables and resources***

The EE activities can be split into 7 main steps, as described synthetically in the following table and that should be described by the Consultant more in detail at Section 5 of this document. At the end of each step the EE should report to Med-TSO.



The tenderer shall fill up the table with its best estimation of the required person/days to fulfill the work program items.

<b>Work program items</b>		<b>Indicative deliverable</b> (final set to be agreed in step 0)
<b>Step 0</b>	<b>Preparatory activities:</b> Schedule of all tasks of the activity 1.1, including the responsibilities between TC Planning and EE. Definition of specific deadlines according to the project GANTT. Estimate the necessary meetings, etc. Finalize methodological approaches with TC Planning members. Verification that sets of data provided by TSOs (network models and scenario data) are compliant with the EE requirements on network studies to be carried out (to then start with Step 1).	<ul style="list-style-type: none"> <li>• Report with final working plan (doc, ppt)</li> <li>• Report with final methodological approaches (doc, ppt)</li> </ul>
<b>Step 1</b>	<b>Building the network model(s):</b> Build the merged network model for the countries interested by the Interconnection Projects based on the individual grid models provided by the members or on the information stored in the Med-TSO DATABASE. In case of missing data, the External Expert should propose fallback solutions.	<ul style="list-style-type: none"> <li>• Network models (format TBD)</li> <li>• Aggregated data for compliance check</li> <li>• Report on data and approaches used to model countries with missing data</li> </ul>
<b>Step 2</b>	<b>Point in time selection:</b> Apply methodology for PiT selection	<ul style="list-style-type: none"> <li>• Dispatching conditions for compliance check</li> </ul>
<b>Step 3</b>	<b>Performing network studies :</b> Load Flow Analysis in normal situations (N) and in cases of contingencies (N-1 or N-2 or N-X as deemed needed).	<ul style="list-style-type: none"> <li>• Progress report (doc, ppt)</li> </ul>



<b>Step 4</b>	<b>Assessing reinforcements:</b> Assessment of the reinforcement required before and after the interconnection project which will be studied by evaluating the performance of plans produced according the technical and economic criteria	<ul style="list-style-type: none"> <li>• Technical and economic data of reinforcements (doc, ppt, xls)</li> </ul>
<b>Step 5</b>	<b>Finalize CBA data:</b> Analysis of the results of the network studies and investment costs, and preliminary presentation of the results to Med-TSO	<ul style="list-style-type: none"> <li>• Preliminary set of CBA data (doc, ppt), excl. losses</li> </ul>
<b>Step 6</b>	<b>Fine-tuning or results:</b> Fine-tuning of the results of the network studies and investment costs with the support of TC Planning and/or RG representatives	<ul style="list-style-type: none"> <li>• Final set of CBA data (doc, ppt), excl. losses</li> </ul>
<b>Step 7</b>	<b>Losses variation calculation</b> (with and without the project)	<ul style="list-style-type: none"> <li>• Results of grid losses calculation</li> </ul>
<b>Step 8</b>	<b>Preparation of final deliverables :</b> Final report submission to TC Planning (once final results have been approved by members of TC Planning)	<ul style="list-style-type: none"> <li>• Final report</li> </ul>

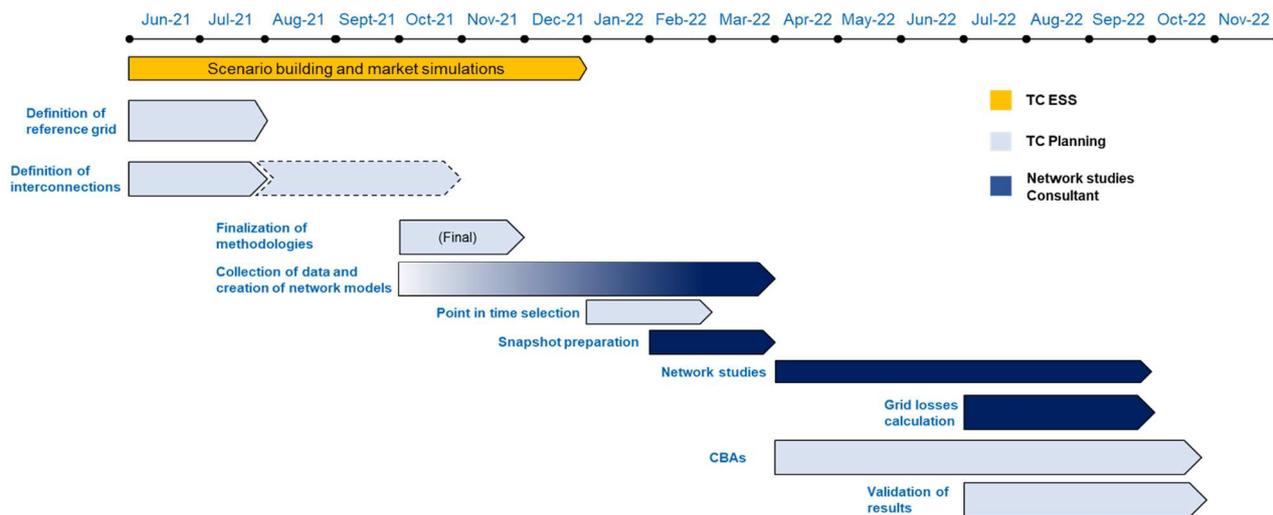
Each step must provide for a kick-off meeting and for the submission of a set of deliverables (in line with what indicated in the table above). The EE shall also ensure TC Planning coordination and SPoC receive periodic progress report of activities. The nature (e.g. ppt presentation, update call) and the frequency of these updates will be agreed as part of step 0.

**It is worthwhile advice the tenderers that this contract falls into the EC Procurement Guidelines (EC PRAG) and that, therefore, following the adopted selection procedure, the value of this contract cannot trespass the threshold of EUR 300,000 (VAT included).**

## 5. Detailed GANTT and project team composition

The EE shall provide to Med-TSO, for its approval, a detailed GANTT of the activities containing (the list is not exhaustive):

- Tasks
- Project Team (eventually defining the support requested to Med-TSO resources)
- Deadlines for each task and associated intermediate and final deliverables and status updates.
- Meetings calendar and the date for a kick-off meeting for each step mentioned in section 4.



The GANTT must be developed in agreement general process outlined in the above figure. The GANTT must also include an indication of the resources allocated to each task (number of resources and level of experience)

## 6. Timetable for the call for tenders

Stages	Indicative period
a) Publication of the call	12 <sup>th</sup> August 2021
b) Deadline for submitting applications	15 <sup>th</sup> September 2021
c) Evaluation period (technical and financial proposals - possibly including calls and interviews with Tenderers)	until 8 <sup>th</sup> October 2021
d) Information to tenderers	following stage c) above
e) Signature of contract	by end of October 2021



f) Final submission of all the deliverables	by end of October 2022
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## 7. *General Conditions*

The Service Provider must be aware that the activity is co-funded by the EC and subject to all EU standard procedures.

All the documents proposed by the Service Provider are subject to approval. The approval does not change the responsibility of the Service provider on the final result. All the documents can be updated during the activity, whenever unpredictable facts arise. In all cases, major changes introduced by the Service Provider have to be notified to Med-TSO for approval. The final documentation has to be consistent with the activity, in terms of scope and time.

The EE should be aware about the regional approach that Med-TSO intends to apply (by splitting the Med-TSO area in Western and Eastern parts or more regions). It should describe in detail its methodology and internal organization necessary to cope with such approach. The EE should also be aware that the regional studies should be coherent, consistent and have a common and coordinated final report.

The EE should describe in detail how it intends to manage the possible lack of data and information (partial or total) coming from one or more of the Med-TSO countries, and how it intends to manage the associated relevant risk.

The EE should use and review the methodological guidelines reported in the Annex “Technical and methodological guidelines” it intends to use with regards to:

- Merging network models and make them compliant with scenario data;
- Points in Time selection
- Network studies and identification of required reinforcement associated with the new interconnection
- Power system losses calculation
- Possible lack of data and information
- Clustering of projects based on data delivered from TSO members

Finally, it is reminded the EE it is required to establish a transparent data exchange process with the MedTSO coordination team, SPoC and TSO members to ensure adequate . In particular, the EE shall provide for the exchange of the following data:



- Merged network models (to ensure the final models comply with the input data provided and with the scenario data)
- Snapshot data (Once PiTs are identified) to ensure the dispatching of thermal power plants and other relevant grid data comply with the common practices of the given Mediterranean country
- Reinforcement to be included in the reference grid and not related to the interconnection projects to be assessed
- Proposed set of reinforcements related to the realization of the interconnection projects
- Power system losses
- CBA calculations (for the items included in the activities described in this tender).



## PART B Procedures and evaluation criteria

### 1. Tenderers

The tender is organized by invitation.

The following tenderers have been invited to apply for this call:

Company	Contact	E-mail	Address
TUBITAK	Ozgur TANIDIR	<a href="mailto:ozgur.tanidir@tubitak.gov.tr">ozgur.tanidir@tubitak.gov.tr</a>	TÜBİTAK MAM Enerji Enstitüsü Ankara Birimi, ODTÜ Yerleşkesi, 06531 ANKARA
ELTEMTEK	Arda ATATUZUN	<a href="mailto:ardaatatuzun@eltemtek.com">ardaatatuzun@eltemtek.com</a>	Balgat, Ziyabey Cd. No:14, 06520 Çankaya/Ankara Turkey
EDF - DPI - DPIT	Jan Christophe HOOGENDOORN  Alain REGNIER  Laurence MAGLIANO	<a href="mailto:jan.christophe.hoogendoorn@edf.fr">jan.christophe.hoogendoorn@edf.fr</a>  <a href="mailto:alain.regnier@edf.fr">alain.regnier@edf.fr</a> (cc)  <a href="mailto:laurence.magliano@edf.fr">laurence.magliano@edf.fr</a> (cc)	Agence RH - DPI ACTHYIN 682 Cours de la Libération EDF / DPNT/DTEAM/CIST 1 Carrefour Pleyel, 93200 Saint-Denis
INESC TEC	Joao A. PEÇAS LOPES  Leonel CARVALHO	<a href="mailto:jpl@fe.up.pt">jpl@fe.up.pt</a>  <a href="mailto:leonel.m.carvalho@inesctec.pt">leonel.m.carvalho@inesctec.pt</a>	Dr. Roberto Frias, 4200 Porto, Portugal



CESI	Bruno COVA, Valerio D'ARCO	<a href="mailto:bruno.cova@cesi.it">bruno.cova@cesi.it</a>  <a href="mailto:valerio.darco@cesi.it">valerio.darco@cesi.it</a>	Via Rubattino, 54  20134 Milano, Italy
TRACTEBEL	Joseph DU BOIS	<a href="mailto:joseph.dubois@tractebel.be">joseph.dubois@tractebel.be</a>	Avenue Ariane, 7  1200 Brussels, Belgium
BARLOVENTO	Rafael ZUBIAUR	<a href="mailto:rzubiaur@barlovento-recursos.com">rzubiaur@barlovento- recursos.com</a>	Pintor Sorolla nº 8,  Logroño  26007 (España / Spain)
Atkins, member of the SNC- Lavalin Group	Will SPATOLA	<a href="mailto:will.spatola@atkinglobal.com">will.spatola@atkinglobal.com</a>	Woodcote Grove, Ashley Road, Epsom, Surrey KT17 4QR, United Kingdom
Mott McDonald Ltd	Kathleen CLARK  Mircea SCUTARIU	<a href="mailto:kathleen.clark@mottmac.com">kathleen.clark@mottmac.com</a>  <a href="mailto:Mircea.Scutariu@mottmac.com">Mircea.Scutariu@mottmac.co m (cc)</a>	319 St Vincent Street, Glasgow G2 5LD, United Kingdom
Manitoba Hydro International	Dharshana MUTHUMUNI	<a href="mailto:dharshana@mhi.ca">dharshana@mhi.ca</a>	211 Commerce Drive Winnipeg Manitoba, Canada, R3P, 1A3
DNV GL - Energy	Ashutosh SHARMA  Andrea MANSOLDO	<a href="mailto:Ashutosh.Sharma@dnvgl.com">Ashutosh.Sharma@dnvgl.com</a>  <a href="mailto:andrea.mansoldo@dnvgl.com">andrea.mansoldo@dnvgl.com</a>	12th Floor, Burjuman Business Tower, PO Box 11539  Dubai, United Arab Emirates

Consortia are allowed, but must include a leader within the companies listed in the table above. Names and CVs of the proposed experts who will work in the contract must be clearly declared. The

substitution of an expert can only take place with an expert with similar professional experience and in every case, the substitution must be approved by Med-TSO.

## **2. Procedure for the Submission of Proposals**

The tendering Service Provider shall submit its Proposal in four folders, named:

“[NAME OF THE TENDERER\_Folder A]”

“[NAME OF THE TENDERER\_Folder B]”

“[NAME OF THE TENDERER\_Folder C]”

“[NAME OF THE TENDERER\_Folder D]”

**Folder A** - *Administrative documentation* – the following documents shall be included:

- This request for offer, signed by the legal representative of the Service Provider, with a copy of its ID attached; the request can also be signed by a solicitor of the legal representative and, in this case, a certified copy of the attorney has to be attached;
- A valid chamber of commerce Service Provider registration for the Service Provider (this document must have an international format and in any case must be in English).

**Folder B** – *Economic offer* - the cost of the work including VAT, taxes, expenses, contributions and other due fiscal charges, according to the applicable law of the Service Provider, shall be indicated. The Economic offer shall be signed by the legal representative of the Service Provider, with a copy of its ID attached; the offer can also be signed by a solicitor of the legal representative and, in this case, a certified copy of the attorney has to be attached.

The consultant should give a quotation for the standard number of clusters indicated in the call for tender and in a separate quotation, the price for additional clusters that may be asked.

**Folder C** - *References* – the tenderer shall include all the information considered relevant for evaluating the expert qualifications, experience and competence, taking into account the awarding criteria and procedures described at Section 11. Med-TSO reserves the right to verify self-attested titles, competencies and experiences and the faculty of this Administration to not proceed to the award shall not be affected.

**Folder D** - *Technical offer* –

- I. **Services performing:** the tenderer shall describe how the activity will be performed including the methodological guidelines reported in the Annex “Technical and methodological guidelines”, a schedule of the tasks, the date of delivery and the identification of the resources allocated to each task);



- II. **Action plan:** the tenderer shall describe the time to perform the services, taking into account the specific nature of the Association, indicating specifically the different stages, and, for each stage, indicating the relevant timetable;
- III. **Professional resources:** list of the professional resources the tenderer will use to perform the service, attaching the relevant CVs.

**The Technical offer shall not include any economic information. Any violation of this requirement will determine the exclusion of the tenderer from the bidding procedure.**

The Technical offer shall be signed by the legal representative of the Service Provider, with a copy of its ID attached; the offer can also be signed by a solicitor of the legal representative and, in this case, a certified copy of the attorney has to be attached.

Offers shall be drawn in English.

Folders A, B, C and D shall be sent, by electronic mail to [tenders@med-tso.com](mailto:tenders@med-tso.com). This email shall have as object: "Execution of Network Studies".

The deadline for the submission of the proposal is **15<sup>th</sup> September 2021**. The date of the email received will be valid.

**Any queries could be submitted by 2nd of September 2021. Answers to those queries will be sent to all prospects by 10th September 2021.**

Med-TSO reserves the right to verify self-attested titles, competencies and experiences and the faculty of this Administration to not proceed to the award shall not be affected.

If there is a need to have other information, Med-TSO Secretariat may contact the tenderer for this purpose during the tender process.

### 3. Awarding criteria

The offers will be evaluated according to the following scoring table:

<i>EVALUATION ELEMENTS</i>	<i>MAXIMUM SCORE</i>
<i>REFERENCES</i>	<i>20</i>
<i>TECHNICAL OFFER</i>	<i>60</i>
<i>ECONOMICAL OFFER</i>	<i>20</i>
<i>TOTAL</i>	<i>100</i>

### 4. Score assignment

The score for the References and the Technical offer will be assigned on the basis of criteria and evaluation elements as reported in the following tables.

All the contract reports and communications will be in English; therefore, a good knowledge of the English language is a prerequisite for the proposed team of experts.

<b>References Evaluation - Technical</b>	<b>Max Score</b>	<b>Weight</b>
<b>1 - Qualifications and competence of key personnel</b>	<b>15</b>	<b>20%</b>
Knowledge of French and/or Arabic	5	
Skills in Project Management, specific information provided by candidate	10	
<b>2 – Background</b>	<b>40</b>	
Experience in the field of Network Simulation and Analysis, Planning and Development of electric power systems	10	
Proved knowledge of the organization and structure of multi-national transmission Infrastructures and multiterminal link analysis	20	
Experience in System Planning and Development within European and/or the Mediterranean Region	10	
<b>3 - Specific knowledge and experience</b>	<b>45</b>	
Proved knowledge and experience in the use of computational tools for System Simulation and Analysis (such as PSSE, SPIRA, DigSilent, etc.)	10	



Proved experience in the Long/short term coordinated planning and development of transmission system and Management of interconnections in the integrated electricity market	10	
Proven experience in multiterminal link analysis (HVDC), submarine interconnections and converter station technology.	15	
Proved experience in development of Master Plans at level of countries and/or regions like (ENTSO-E or Mediterranean area)	10	
<b>TOTAL SCORE FOR REFERENCES</b>	<b>100</b>	

Technical Evaluation	Max Score	Weight
<b>4 -Quality of technical offer</b>	<b>100</b>	<b>60%</b>
Consistency with the ToR of the call	10	
Explicit and detailed description of the methodological approach to be implemented as described in (7)	30	
Detailed time schedule of the work	15	
Detailed description of the Deliverables	15	
Project Management	20	
Offer improvement of the ToR (including additional quotations)	10	
<b>TOTAL SCORE FOR TECHNICAL OFFER:</b>	<b>100</b>	

The minimum threshold for each criteria is 70% of the maximum score.



## 5. *Evaluation procedure*

The formula for **Economic offer evaluation** is:

$$ES = 100 \times CP/EP$$

where ES is the Economic Score, CP is the value of the Cheapest Proposal and EP is the value of the Economic Proposal under consideration.

***The tenderer obtaining the highest combined score is invited to a negotiation.***

## 6. *Confidential Information*

Any non-public information of confidential or proprietary nature, whether of a commercial, financial or technical nature related to the object of this call, or all information otherwise exchanged between Med-TSO and the tenderers shall be deemed to be “Confidential Information”.

“Confidential Information” shall not be used or exchanged for purposes other than in direct relation with the object of this call.

It is also considered the possibility that any Med-TSO Member could require a specific NDA to be signed by the EE.



## **ANNEX 1 - Technical and methodological guidelines**

### **Guidelines for the merging of grid models**

As part of Activity 1 (building of network models), the EE will Build the reference network model of the interconnected Mediterranean system on a regional basis (one model for each of the identified regions or sub-regions, as proposed by the Members). In some cases, the EE might need to model countries for which network models are not available. For such cases the EE shall indicate in the tender document one or more modelling approaches.

### **Guidelines for identification of Points in Time**

As part of Activity 2, the EE will have to identify the most representative power system conditions to be studied. This corresponds to a set of Points in Time (PiTs), i.e. sub-sets of hourly results of market studies that are representative of power system conditions which are particularly relevant to the interconnection project to be analyzed.

The EE is required to define a methodology for PiT selection, to be included in the technical offer, which shall follow the guideline included in this paragraph.

The starting point is represented by a “Default Solution”, where a single PiT is obtained by progressively filtering hourly results of market studies, according to criteria and threshold values to be agreed with each individual TSO and for each interconnection project to be studied. Typical criteria include:

- Hours with flows between countries higher than a threshold value;
- Hours in which renewable generation (wind, solar, etc) is higher than a threshold value;
- Hours in which load is higher/lower than a threshold value.

The EE will agree with each individual TSO on in empirical way both the criteria and the threshold values, with the aim of identifying the most representative conditions on which to carry out network studies. The whole dataset of hourly market studies results is first assessed based on the first agreed criteria; then, the hours that meet the first criteria are assessed against the second and so on up to a maximum of 5 criteria. The resulting sub-set of hours that meet all criteria represents a PiT.

The EE is invited to propose alternative methodologies or build its own one based on the “Default Solution”. The proposed methodology shall ensure:

- Representativeness of the PiTs resulting from it (to be proven through adequate indicators/metrics)



- Applicability and same quality of results among different market nodes of the Mediterranean area
- Transparency of data flows and algorithms used
- As much as possible, possibility to adjust control parameters based on TSOs needs

### **Guideline for assessing internal reinforcements**

As part of Activity 4 the EE will identify internal reinforcements needs associated to each interconnection project under assessment.

While the needed reinforcement will depend on the fulfilment of specific network planning criteria (see dedicated section later in the document), it is important that the proposed reinforcements of each project are only resulting from the introduction of the given interconnection project under assessment and not from other reasons (e.g. the evolution of energy scenarios). To this aim, for PinT project in particular, the EE should run an assessment of reinforcement needs also on the reference grid and identify approaches to take into account only additional reinforcement needs due associated to the realization of the interconnection. As a way of example, this can include the identification of portion of the grid which are not impacted by any interconnection project and for which identification of reinforcement is not needed.

### **Guidelines for calculation of grid losses variation**

As part of Activity 7, the EE will have to calculate annual grid losses variation in presence/absence of each interconnection project under assessment.

Grid losses variation will have to be annualized based on methodologies to be proposed by the EE. Similarly to the case of PiTs, the proposed methodology shall ensure:

- Representativeness of the PiTs resulting from it (to be proven through adequate indicators/metrics)
- Applicability and same quality of results among different market nodes of the Mediterranean area
- Transparency of data flows and algorithms used