



Specifications attached to the Invitation to Tender

12.R&T.OP.140

PCB-R - Printed Circuit Board Roadmap
for Defence Applications

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Introduction to EDA

Pursuant to Council Decision 2011/411/CFSP of 12 July 2011 defining the statute, seat and operational rules of the European Defence Agency and repealing Joint Action 2004/551/CFSP, the mission of the European Defence Agency (hereinafter “EDA” or “the Agency”) is “to support the Council and the Member States in their effort to improve the EU’s defence capabilities in the field of crisis management and to sustain the CSDP as it stands now and develops in the future.”

Functions and tasks

The European Defence Agency, within the overall mission set out in the Agency’s constituent act, is ascribed four functions, covering:

- developing defence capabilities;
- promoting Defence Research and Technology (R&T);
- promoting armaments co-operation;
- creating a competitive European Defence Equipment Market and strengthening the European Defence, Technological and Industrial Base.

All these functions relate to improving Europe's defence performance, by promoting coherence. A more integrated approach to capability development will contribute to better-defined future requirements on which collaborations - in armaments or R&T or the operational domain - can be built. More collaboration will, in turn, provide opportunities for industrial restructuring and progress towards the continental-scale demand and market, which industry needs.

Further information can be found on the Agency’s web site at <http://www.eda.europa.eu>

1 Overview of this tender

1.1 Description of the contract

The services required by EDA are described in the Terms of Reference in part 2 of the present tender specifications.

1.2 Timetable

Summary timetable	Date	Comments
Launch date	10.02.2012	
Deadline for request of clarifications from EDA	29 March 2012	17:00h Local Time
Last date on which clarifications are issued by EDA	04 April 2012	17:00h Local Time
Deadline for submission of tenders	16/04/2012	Tenders delivered by hand shall be submitted not later than 17:00h Local Time
Opening session	17/04/2012	EDA premises at 10:30 Local Time
Completion date for evaluation of tenders	April 2012	Estimate
Signature of contract(s)	April – May 2012	Estimate

1.3 Participation in the tender procedure

Tenderers must not be in any of the exclusion criteria indicated in section 3.1 of these tender specifications and must have the legal capacity to allow them to participate in this tender procedure (see section 3.2.1).

Please note that any attempt by a tenderer to obtain confidential information, enter into unlawful agreements with competitors or influence the evaluation committee or the EDA during the process of examining, clarifying, evaluating and comparing tenders will lead to the rejection of his tender and may result in administrative penalties.

1.4 Participation of consortia

Consortia, may submit a tender on condition that it complies with the rules of competition.

A consortium may be a permanent, legally-established grouping or a grouping which has been constituted informally for a specific tender procedure.

Such grouping (or consortia) must specify the company or person heading the project (the leader) and must also submit a copy of the document authorising this company or person to submit a

tender. All members of a consortium (i.e., the leader and all other members) are jointly and severally liable to the Contracting Authority.

In addition, each member of the consortium must provide the required evidence for the exclusion and selection criteria (see **Section 3** of these tender specifications).

The participation of an ineligible person will result in the automatic exclusion of that person. In particular, if that ineligible person belongs to a consortium, the whole consortium will be excluded.

1.5 Sub-contracting

The tenderer must indicate clearly, which parts of the work will be sub-contracted.

Sub-contractors must satisfy the eligibility criteria applicable to the award of the contract.

Sub-contractors cannot be in any of the exclusion situations listed in Section 3 of these tender specifications. Whenever requested by the EDA, the successful tenderer shall submit a declaration from the intended subcontractor that it is not in one of the exclusion situations. In case of doubt on this declaration of honour, the EDA shall request documentary evidence that the sub-contractor is not in a situation of exclusion.

If the identity of the sub-contractor is not known at the time of submitting the tender, the tenderer who is awarded the contract will have to seek the EDA's prior written authorisation before entering into a sub-contract.

Where no sub-contractor is given, the work will be assumed to be carried out directly by the tenderer.

1.6 Presentation of the tenders

1.6.1 The tenders must comply with the following conditions:

Tenders must be submitted in accordance with the double envelope system:

The **outer envelope** or parcel should be sealed with adhesive tape and signed across the seal and carry the following information:

- the reference number of the invitation to tender **12.R&T.OP.140**
- the project title “**Printed Circuit Board for Military Applications – IAP01 Strategic Research Agenda**”
- the name of the Tenderer
- the indication “**Tender - Not to be opened by the internal mail service**”
- the address for submission of tenders (*as indicated in the letter of invitation to tender*)
- the date of posting (*if applicable*) should be legible on the outer envelope.

The outer envelope must contain **three inner envelopes**, namely, **Envelope A, B and C**.

The content of each of these three envelopes must be as follows:

Envelope A – Administrative documents

- the **Tender Submission Form** found in **Annex VII (1 original copy)**
- the duly filled in, signed and dated **Exclusion Criteria Declaration(s)** as requested in **section 3.1** and using the standard template in **Annex IV (1 original copy per entity concerned)**
- the duly filled in, signed and dated **Legal Entity Form(s)** as requested in **section 3.2** and using the standard template in **Annex V (1 copy per entity concerned)**
- the duly filled in, signed and dated **Financial Identification Form**¹ using the template in **Annex VI (1 copy)**
- The **Economic & Financial Capacity** criteria documents as requested in section 3.2 **(1 copy)**
- The **Technical & Professional Capacity** criteria documents as requested in section 3.2 **(3 copies)**
- **Duly authorised signature**, i.e. an official document (e.g. statutes, power of attorney, notary statement, etc.) proving that the person who signs on behalf of the tenderer is duly authorised to do so **(one original copy)**
- In case of **consortia**, the consortium agreement or a duly signed and dated consortium statement by each of the consortium members specifying the company or person heading the project and authorised to submit a tender on behalf of the consortium (*please see **Section 1.4 of the Tender Specifications***). **(one original copy)**

¹ in case of consortia, only **one** Financial Identification Form for the whole consortium shall be submitted, nominating the bank account into which payments are to be made under the contract in the event that the respective tender is successful

Envelope B – Technical proposal

One signed original and 3 (three) photocopies of the **Technical Proposal** providing all information requested in point 4.2

Envelope C – Financial proposal

One signed original and 3 (three) photocopies of the **Financial Proposal** based on the format found in **Annex II**

1.6.2 The original tender must be marked “**ORIGINAL**”, and the copies signed in the same way as the original and marked “**COPY**”.

1.6.3 Tenders should be drafted in one of the official languages of the European Union, **preferably English**. Requested documents not available in English must be accompanied by an English courtesy translation. The contract shall be entered into in English.

It is extremely important that tenders be presented in the correct format and include all documents necessary to enable the evaluation committee to assess them. Failure to respect these requirements will constitute a formal error and may result in the rejection of the tender.

1.7 Period during which the tenders are binding

Period of validity of the tenders, during which tenderers may not modify the terms of their tenders in any respect is 120 days after the deadline for the submission of tenders. In exceptional cases, before the period of validity expires, the EDA may ask tenderers to extend the period for a specific number of days, which may not exceed 40.

The selected tenderer must maintain its tender for a further 60 days from the date of notification that his tender has been recommended for the award of the contract. The further period of 60 days is added to the validity period irrespective of the date of notification.

1.8 Contacts between the EDA and tenderers

Contacts between the EDA and tenderers are prohibited throughout the procedure save in exceptional circumstances and under the following conditions only:

A. Before the final date for submission of tenders:

- At the request of the tenderer, the EDA may provide additional information solely for the purpose of clarifying the nature of the contract. Any request for additional information must be made in writing by **e-mail** at procurement@eda.europa.eu or at the **Fax no.:** **+32 (0)2 504 29 75** and should indicate the reference number and the title of the tender.
- Requests for additional information received after the deadline for request of clarifications from the EDA as specified in point 1.2 – *Timetable* will not be processed.
- The EDA may, on its own initiative, inform interested parties of any error, inaccuracy, omission or any other clerical error in the text of the call for tender.
- Any additional information including that referred to above will be published on the EDA's website. Please ensure that you visit regularly the site for updates.

B. After the opening of tenders:

- If, after the tenders have been opened, some clarification is required in connection with a tender, or if obvious clerical errors in the submitted tender must be corrected, the EDA may contact the tenderer, although such contact may not lead to any alternation of the terms of the submitted tender.

1.9 Visits to EDA premises

No site visit/information meeting at EDA's premises is deemed necessary for this procedure.

1.10 Variants

Not applicable

1.11 Scope for additional services

The EDA may, at its own discretion, extend the project in duration and/or scope subject to the availability of funding and to satisfactory performance by the Contractor.

1.12 Security standards

In the general implementation of its activities and for the processing of tendering procedures in particular, the EDA observes the Council's security regulations set out in Council Decision 2011/292/EU of 31 March 2011 on the security rules for protecting EU classified information.

1.13 Contract provisions

In drawing up your tender, you should bear in mind the provisions of the draft contract (see **Annex I** to the present tender specifications). In particular, the draft contract indicates the method and the conditions for payments to the contractor.

2 Terms of Reference

The Terms of Reference will become part of the contract that may be awarded as a result of the tender.

2.1 Reference Documents

Below, the most important concepts and documents are listed, as conceptual background of the study. The document No. 1 will be made available upon request.

1. DISCOTECH Study (07-R&T-OB-003) - Discotech European Roadmap in electronic and photonic components for Defence
2. EDTID Study (10-R&T-OB-33) - Addressing key European Defence technical and Industrial Dependences. This study is currently under contract and the final results are expected by March/April 2012. It is intended to provide information and results of the study to the Contractor as soon as possible after the start of the contract. The potential Contractor shall to the greatest extend use the findings of the study as it will be available.

2.2 Introduction: background of the invitation to tender

In the context of the dependency strategy agreed by the CNC (Capability National Coordinators) discussions in CAPTECH IAP01 meetings about the future critical technologies for the European military community of dependence on none European sources, a major concern identified was the technology for Printed Circuit Boards (PCB).

PCB is not a new technology. However, the technologies, processes and materials by which PCB's are being generated are continuously subject to innovation cycles. The market is growing in the all overall electronic market and the PCB technology is a central and critical core knowledge for a majority of electronic products, and is increasingly important for strategic military, space and aviation electronics. This is especially the case as military products increasingly require lighter, smaller, more energy efficient, more reliable and enhanced performance electronic circuits.

The market and "European dependence situation as assessed by the key industry and traceable in the public information domain leads to the following findings:

1. The industry and knowledge base including production facilities are moving to Asia (strong in Japan and increasing in China, India, Southeast Asian countries). According to industry, there are only 6 European companies in the TOP 100 PCB manufacturers and only 7 % of the printed circuit boards are made in Europe (8% in North America). This represents a dramatic decrease during the past 10 years.
2. According to market research announcements the global PCB market is expected to reach 76.2 Billion \$ by 2015.
3. For future key PCB technology in military, space and avionic systems Europe runs into the risk of becoming increasingly dependent on non-European resources especially in the Japan and Asian-Pacific region.
4. There is insufficient understanding of the core technologies and competency entities in Europe which should be available in order to guarantee the technological independence for future high end and affordable military, space and avionic PCB products.

2.3 Description of the subject and scope of the contract

Defence substrates and packages are more and more made in organic materials (Printed Circuits Board, organic packaging). Main advantages of these technologies are:

1. Lower cost of items
2. Much lower cost of tooling
3. No / smaller TCE (Temperature Coefficient of Expansion) mismatch with Plastic Encapsulated Components.
4. Shorter fabrication cycle
5. Lower weight
6. Increase of integration density

The technology of such substrates and packages are pushed by component technology and associated packaging.

The aim of this study is to establish roadmaps for possible future European initiatives and investments in the development of future needed PCB technologies for defence equipment.

Furthermore, recommendations shall be presented for potential European industry sources (supply chains) for reliable, economical and sustainable development and production of future PCB technologies for critical military technologies and systems.

The purpose and objective of the EDA study on "Printed Circuit Board for Military Applications – IAP01 Strategic Research Agenda" is:

1. Identify future relevant and critical peculiarities required from PCB's for military application and what distinguishes them from civil applications
2. Collect PCB technology requirements for future European defence material
3. Identify and quantify European capabilities for PCB manufacturing, base material and other associated processes.
4. Identify dependencies on material from none European countries and associated risks.
5. Define technical topics to be inserted in the future EDA Packaging and Interconnection projects
6. Take into account the impact of European and International directives on materials used in PCBs (and associated items)
7. Develop a European Technology Roadmap for defence applications up to at least 15 years ahead with a most precise assessment of the next 5 years.
8. Develop recommendations and a strategic European approach for decreasing European dependency and counter potential risks for the future

2.4 Outline of the services required

The study shall:

- establish roadmaps for future European investments in the development of future needed PCB technologies for defence equipment;
- highlight the risks for supplying of PCB for military application;
- develop recommendations and a strategic European approach for decreasing European dependency and counter potential risks for the future.

2.4.1 WP 1 Project Management: Activities to be performed to manage the project.

2.4.2 WP 2 Identification of specific needs for defence application

The needs will be divided in 2 types:

- substrates for interconnection (PCB)
- packages for component (bare dies) or Multi Chip Module

For both types the main application domains have to be taken into account:

- digital electronics for signal / image processing including embedded components and targeting missile, optronics, radio-communications, security and other military equipment
- RF / microwave (up to 100 GHz) for radars and satellite/UAV communications (electronics and antennas)
- power electronics
- optical data transmission

Aspects regarding the following issues shall be considered:

- environmental regulation
- organic material state of the art
- new material for optical transmission
- export control
- intellectual property protection

The Contractor shall define all the specific defence needs for organic technologies through detailing the technology gap listed in the DISCOTECH study and in analysing the differences between the targeted and effective market release.

For every future application the main parameters that will have influence on the organic technology shall be defined:

- type of component used (number of I/O, pitch, ...)
- thermal dissipation
- signal frequency
- signal and power integrity
- Interconnect density...

2.4.3 WP 3 Mapping of European strengths and weaknesses for organic technology

This work package is divided in 3 sub-work packages:

2.4.3.1 WP 3.1 European capabilities: This sub WP will establish Who's doing What in all the organic technology supply chain at European level.

- base material
- process chemicals
- equipment for test and manufacturing
- services, including design (functional / electronic, thermal, mechanical) PCB manufacturers and their expertise domain
- assembly and interconnection on PCB

The study will take into account the present and future R&D activities and development of the industry. This shall be done by a benchmark against the global industry.

2.4.3.2 WP 3.2 Printed Circuit manufacturers: The objective of this sub work package will be to describe in detail the Military PCB suppliers in respect to:

→ economic figures of the European PCB manufacturers as:

- company profile
- history
- market
- products
- quality and certificates
- turnover
- people
- investments
- annual results

When applicable the strategy and R&D cooperation will be described.

2.4.3.3 WP 3.3 European Strength and Weaknesses in context to the global market and competition: This sub WP will analyse and describe the dependence situation (strength and weaknesses) of the European military PCB industry in respect to:

- Competitiveness in the global market, including a benchmark analysis.
- Risks and threats to become dependent to stakeholders outside of Europe

The Contractor shall provide concrete examples of problems experienced. Particularly, risks for the military sector shall be identified.

2.4.4 WP 4 Definition and quotation of technological development or assessment

The aim of WP4 is to define what shall be done to secure organic technology able to meet future defence needs.

The first activity will be to establish, for each application (Digital, RF/microwave, mixed signal and optical ...) a compliance matrix between the technology needs (today's and future needs) and the European capabilities.

This compliance matrix will, in detail, highlight the technologies that will need improvements or assessments. These could include, for example, new PCB processes, reliability, ruggedization of COTS / TOTS items, heterogeneous integration and embedded systems.

Those activities will be detailed and ranked, regarding their future potential, criticality or economic interest.

2.4.5 WP 5 Roadmap and Recommendations towards a European non-dependent and sustainable PCB Strategy

The objective of WP 5 is to:

- Develop a European Technology Roadmap for defence applications up to at least 15 years ahead, which should include future required European investments and infrastructure for the development of future needed PCB technologies for defence equipment.

- Develop recommendations and a strategic European approach for decreasing European dependency and counter potential risks for the future.
- Propose business models which could support European non-dependence and sustainable supply chains for key enabling military relevant PCB technologies.

2.5 Duration

The execution of the services covered by the Contract shall be completed within 12 (twelve) months from the date of entry into force of the contract.

2.6 Deliverables

2.6.1.1 Reports

1. Intermediate Progress Report WP2: To be delivered three (3) months following the contract entry into force;
2. Progress report WP2: To be delivered six (6) months following the contract entry into force. This report shall contain the results of WP 2;
3. Intermediate Progress Report WP3: To be delivered six (6) months following the contract entry into force;
4. Progress Report WP3: To be delivered nine (9) months following the contract entry into force;
5. Intermediate Progress Report WP4 and WP5: to be delivered nine (9) months following the contract entry into force;
6. Final report: To be delivered twelve (12) months following the contract entry into force in 4 hard copies and 50 electronic format (CD-ROM).

The EDA study on “Printed Circuit Board for Military Applications– IAP01 Strategic Research Agenda-” should inter alia contain:

1. Collect PCB technology requirement for future European defence material
2. Identify and quantify European capabilities for PCB manufacturing, base material and other associated processes.
3. Identify dependencies on material from non-European countries and associated risks.
4. Define technical topics to be inserted in the future EDA Packaging and Interconnection projects
5. Take into account the impact of European and International directives on materials used in PCBs (and associated items)
6. Identify the global trends on PCB manufacturing and development
7. Identify risks and critical capabilities
8. Roadmap for critical developments, investments and infrastructures

The PCB study should analyse, quantify and describe the level of dependence, consequences and risks the European armament community is facing and where appropriately deliver recommendations for achieving non dependence on military relevant PCB technologies.

The industrial assessment shall include a global comparison. Civil development trends and the evolution of the industrial capacity in Europe shall be considered as well.

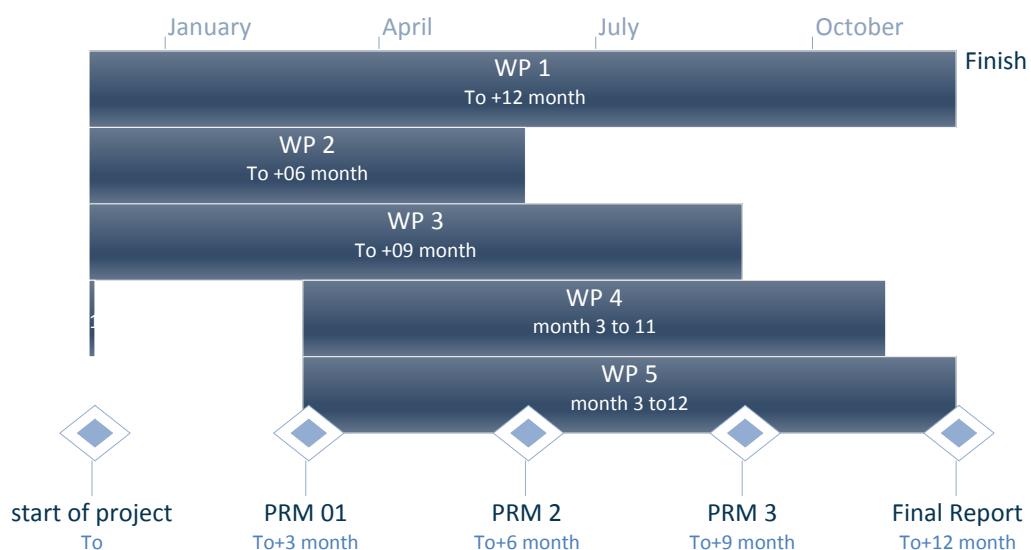
The PCB study should justify where military investment is necessary by stating the European technical shortfalls, which already exist, or which would result if military R&T-investment were too low. This forecast should extend at least 15 years ahead. Finally, a plan for cooperative investments to overcome the technical shortfalls should be developed.

The results of the DISCOTECH, European Defence Technical and Industrial Dependencies and further relevant studies shall be taken into account (see chapter 2.1 Reference Documents) in order to avoid duplication of work.

2.6.1.2 Meetings

1. Kick off meeting: Undertaken at EDA premises within one month following the contract signature. The lead Contractor shall present the study management plan.
2. PRM 1 (To+3): Intermediate Progress Report WP2; status & outlook
3. PRM 2 (To+6): Progress Report WP2; Intermediate Progress Report WP3; status & outlook
4. PRM 3 (To+9): Progress Report WP3 & WP5; intermediate progress Report WP4 and WP5; status & outlook
5. Reviews/Workshops might (if possible and deemed adequate) be conducted in combination with the Captech IAP1 meetings with participation of CNC and Defence Industries CNGEs representatives
6. Work Shop: most appropriate date to be determined by consent between EDA and the Contractor.
7. Draft Result Presentation to pMS: approximately To+11
8. Final presentation (To+12): In connection with the delivery of the Final report, the Contractor shall give a final presentation at the EDA.

2.6.1.3 Schedule



2.6.1.4 Summary of deliverables

Deliverables	Scheduled delivery	Requested format	Submission mode
Management plan	Initial: with the tender Final: three weeks after kick off meeting	Initial: according to the contract notice Final: electronic copy	Initial: with the tender Final: to be sent to EDA project officer by e-mail
Consultation Plan	Initial: with the initial Management Plan in the tender Final: three weeks after kick off meeting with the final Management Plan	Initial: according to the contract notice Final: electronic copy	Initial: with the tender Final: to be sent to EDA project officer by e-mail
PRM 01 Intermediate Progress Report WP2	To+3 (one week before the Intermediate Progress Review Meeting)	4 Hard-paper statement and PPT presentation + Electronic copy	to be sent to EDA project officer by regular mail or e-mail
PRM 2 + Mid-term Report Progress Report WP2; Intermediate Progress Report WP3	To+6 (one week before the Intermediate Progress Review Meeting)	4 Hard-paper statement and PPT presentation + Electronic copy	to be sent to EDA project officer by regular mail or e-mail
Key Conclusions for NADs	To+9 (two weeks before the Intermediate Progress Review Meeting)	4 Hard-paper statement and PPT presentation (max. 5 pages) + Electronic copy	to be sent to EDA project officer by regular mail or e-mail
PRM 03 Progress Report WP3 ; intermediate progress Report WP4 & WP 5& outlook	To+9 (one week before the Intermediate Progress Review Meeting)	4 Hard-paper statement and PPT presentation (max. 5 pages) + Electronic copy	to be sent to EDA project officer by regular mail or e-mail
Stakeholder Workshop	To+11 or alternate date deemed most appropriate by consent of EDA and Contractor	PPT presentations	to be sent to EDA project officer by regular mail or e-mail
Draft Executive Summary	4 weeks before the Final Report presentation	4 Hard-paper statement and PPT presentation (max. 5 pages) + Electronic copy	to be sent to EDA project officer by regular mail or e-mail
Draft Final Report	2 weeks before the Final Report presentation	4 Hard-paper statement and PPT presentation + Electronic copy	to be sent to EDA project officer by regular mail or e-mail
Executive Summary	2 weeks before To+12; updated as necessary after the Final Presentation	5 Hard-paper statement and PPT presentation (max. 5 pages) + 50 Electronic copies (CD-ROM)	to be sent to EDA project officer by regular mail or e-mail
Final Report	2 weeks before To+12; updated as necessary after the Final Presentation	4 Hard-paper statement and PPT presentation + Electronic copy	to be sent to EDA project officer by regular mail or e-mail

EDA will be entitled to ask for clarification of the elements and parameters of the study for each of the contract deliverables and the Contractor shall provide such clarification within 24 hours (or as it will be requested by the Agency) in writing and /or verbally. All deliverables are to be delivered / submitted according to the above table to EDA's Project Manager identified in the contract who is responsible for approving them.

Language: All deliverables shall be provided in English

2.7 Use of the output

It will provide transparency of the extent of dependency for the defence products across Europe and the likely consequences. It will particularly contribute in reaching a more clear assessment and understanding of the critical European technology dependency situation of PCB technology and supply chains. Moreover, it will raise awareness of the dependency risks and explain strategies how to limit and deal with them.

The output is strongly intended to be an essential contribution for the EDA CapTech IAP01 Strategic Research Agenda and for a potential European Technology Non-Dependence (foremost military but also cross cross domain) strategy. It will support pMS decision making by providing sound data, analysis, assessments and recommendations.

It should enable to identify and propose most reasonable actions and measures to reduce future European risks and dependencies in the PCB technology development and supply chain for defense technologies and systems. The output should help to ensure the necessary independence underpins the EDTIB to support the CSDP capabilities.

2.8 Financial volume of the contract

The maximum budget of the contract is 350 000 EUR.

2.9 Place of delivery/execution

Deliverables shall be delivered at EDA premises in Brussels, Belgium. All meetings shall normally be held at EDA premises, unless otherwise agreed between the two parties.

3 Exclusion and selection criteria

3.1 Exclusion criteria

Participation to this tender is only open to tenderers who are not in one of the situations listed below:

- a) bankrupt or being wound up, are having their affairs administered by the courts, have entered into an arrangement with creditors, have suspended business activities, are the subject of proceedings concerning those matters, or are in any analogous situation arising from a similar procedure provided for in national legislation or regulations;
- b) have been convicted of an offence concerning their professional conduct by a judgement which has the force of res judicata;
- c) have been guilty of grave professional misconduct proven by any means which the contracting authority can justify;
- d) have not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which they are established or with those of the country of the contracting authority or those of the country where the contract is to be performed;
- e) have been the subject of a judgement which has the force of res judicata for fraud, corruption, involvement in a criminal organization or any other illegal activity detrimental to the Communities' financial interests;
- f) following another procurement procedure or grant award procedure financed by the Community budget, they have been declared to be in a serious breach of contract for failure to comply with their contractual obligations.

In addition to the above, contracts may not be awarded to tenderers who, during the procurement procedure:

- i. are subject to a conflict of interest;
- ii. are guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in the contract procedure or fail to supply this information.

Means of proof required

Tenderers (**all consortium members in case of consortia**), shall provide a declaration on their honour (see model in **Annex IV**), duly signed and dated, stating that they are not in one of the situations referred to above.

Nota bene:

The tenderer to whom the contract is to be awarded shall provide, within 15 days following notification of award and preceding the signature of the contract, the following documentary proofs to confirm the declaration referred to above:

- For points a), b) and e) a recent extract from the judicial record or, failing that, an equivalent document recently issued by a judicial or administrative authority in the country of origin or provenance showing that those requirements are satisfied.
- For point d) a recent certificate issued by the competent authority of the State concerned.

Where the document or certificate referred to above is not issued in the country concerned, it may be replaced by a sworn or, failing that, a solemn statement made by the interested party before a judicial or administrative authority, a notary or a qualified professional body in his country of origin or provenance.

3.2 Selection criteria

The tenderers must submit evidence of their legal, economic, financial, technical and professional capacity to perform the contract.

3.2.1 Legal capacity

Requirement

The tenderers (**all consortium members, in case of consortia and all sub-contractors, where applicable**), are asked to prove that they are authorised to perform the contract under their national law as evidenced by inclusion in a trade or professional register, or a sworn declaration or certificate, membership of a specific organisation, express authorisation or entry in the VAT register.

Evidence required

Each tenderer (**every consortium member, in case of consortia and every sub-contractor, where applicable**), shall provide a duly filled in and signed **Legal Entity Form** (see **Annex V**) accompanied by the documents requested therein.

3.2.2 Economic & Financial capacity

Requirement

The tenderer (**every consortium member in case of consortia**) must be in a stable financial position and have the economic and financial capacity to perform the contract.

Evidence required

Proof of economic and financial capacity shall be furnished by the tenderer (by **every consortium member in case of consortia**) as follows:

- balance sheets or extracts from balance sheets for at least the last two years for which accounts have been closed (where publication of the balance sheet is required under the company law of the country in which the economic operator is established);
- a statement of overall turnover and turnover concerning services/supplies covered by the contract during the last three financial years.

If, for some exceptional reason which the EDA considers justified, the tenderer is unable to provide the references requested by the contracting authority, he may prove his economic and financial capacity by any other means which the EDA considers appropriate.

3.2.3 Technical and professional capacity

Requirements

Proof of technical and professional capacity shall be **demonstrated** by tenderers as follows:

1. Extensive state of the art knowledge of the PCB technology, the industrial constraints and strategies, the military/security technologies for PCB applications and needs/environments as well as industry, competition and market conditions in Europe and globally.
2. Specific experience/knowledge in:
 - PCB relevant R&T activities through the whole supply chain, e.g. design, development and production processes.
 - technical, economic and strategic system knowledge about requirements and constraints on PCB technologies, especially in the area of defence and security;
3. Experience in technology and industrial data gathering, forecasting and analysis;

4. Knowledge and understanding of Defence/Military capabilities and missions;
5. Experience in working with multinational organisations.

Evidence required

The following documents or information must be presented as evidence of compliance with the technical and professional criteria

- A list of the principal services (contracts, studies) corresponding in terms of scope and complexity to the services of the present call for tenders provided in the past five years;
- The tenderer shall elaborate a paper in which he will demonstrate in depth understanding of the issue of Printed Circuit Board technology, the research and industry environment, the market as well as the applications (in the critical systems) and their relevance for the defence community. The tenderer shall demonstrate a profound understanding of the critical key enabling capabilities of PCB supply chains and technologies for the future. **This document shall be not more than 20-pages long.**
- CVs of experts proposed, using Annex III
- Any other document which could demonstrate the tenderer's technical and professional capacity according to the requirements set in this paragraph;

The technical capacity will be assessed in relation to the combined capacities of all the Consortium members (leader and member(s)) and the subcontractor(s), if any, as a whole).

4 Award of the contract

Only the tenders meeting the requirements of the exclusion and selection criteria will be evaluated in terms of quality and price.

The contract shall be awarded to the tenderer submitting the tender offering the best-value-for-money (best quality-price ratio).

4.1 Technical evaluation

The quality of each technical offer will be evaluated in accordance with the award criteria and the associated weighting as detailed in the evaluation grid below.

No	CRITERIA	Max points	Awarded score
1	Criterion 1 - Study execution outline		
	subcriterion a The outline of how the study will be performed demonstrating a good understanding of the scope of the study. For each task the tenderer should include related inputs, outputs and possible challenges in obtaining the required outputs.	20	
	subcriterion b The tenderer shall provide a risk analysis identifying those factors considered the greatest obstacles to success by work packages and the mitigating measures which could be applied	10	
	subcriterion c The tenderer shall outline how he will develop a reasonable and sound European roadmap and his strategic approach for decreasing European dependency and countering potential risks for the future.	20	
2	Criterion 2 – Study management plan and methodology		
	A detailed work programme (including Gantt chart), methodology and reporting structure that explain how the various deliverables of the study are to be achieved	15	
3	Criterion 3 - Organisation of the team of experts		
	subcriterion a A well-balanced multidisciplinary composition of the team including technological, market and military-operational expertise to perform the study	10	
	subcriterion b Division of labour between the team members (leader, experts, etc.) and the proportion of time each will dedicate to the study. In case of a consortium the time share between consortium entities should also be provided.	10	
4	Criterion 4 - Documentation, information handling and gathering		
	Subcriterion a A plan on how the tenderer intends to identify and exploit sources of information related to the study including knowledge from industrial and	5	

		governmental experts, expert workshops and other unclassified information (a list of such sources of information should be provided). Here we also expect the tenderer to identify how they will access and handle sensitive and proprietary information.		
	Subcriterion b	A plan on how the tenderer intends to handle and present the information/outputs/results obtained (including use of roadmaps)	5	
	Subcriterion c	The tenderer should set out how the critical information necessary to underpin a successful study result will be accessed. Dependence on questionnaires should be avoided.	5	
	TOTAL		100	

4.2 Technical proposal

The assessment of the technical quality will be based on the ability of the tenderer to meet the purpose of the contract as described in the terms of reference. To this end, technical proposal shall contain (with maximum of 20 pages) the following information to allow evaluation of their tender according to the technical criteria mentioned above:

- a. A summary of statement of work;
- b. The statement of work answering the Terms of Reference;
- c. A draft management plan and methodology;
- d. A risk assessment and mitigation strategy;
- e. A consultation strategy;
- f. A brief summary of the educational qualifications of the tenderer staff that would be responsible for providing the services, and a description of their role under the contract.

4.3 Technical quality threshold

Only tenders scoring 75 points or more (of a maximum of 100) points against the technical award criteria will have their financial proposal evaluated.

4.4 Financial evaluation

The evaluation will be made on the basis of the price offered. Where a maximum budget is mentioned in these tender specifications, any tenderer submitting a financial proposal exceeding this budget will be rejected.

4.5 Financial proposal

- The financial proposal should be presented in the format found in **Annex II**.
- Prices must be quoted in **EURO** and include all expenses necessary to perform the contract.
- The price quoted is fixed and is subject to **NO revision**.

- Prices must be quoted free of all duties, taxes and other charges (including VAT) as the EDA is exempt from such charges under Article 3 of the Protocol on the Privileges and Immunities of the European Union.
- Costs incurred in preparing and submitting tenders are borne by the tenderer and shall not be reimbursed.

4.6 Choice of the selected tender

The most economically advantageous tender is established by weighing technical quality against price on an **70/30** basis.

ANNEX I - DRAFT CONTRACT

**Not attached to the present document – see separate document on EDA website
12.R&T.OP.140.**

ANNEX II - MODEL FINANCIAL OFFER

Prices should be all-inclusive; the Agency will not pay expenses for any additional costs incurred from the execution of the contract.

Financial proposals exceeding the amount indicated in Section 2.4 shall be excluded outright.

Name of Tenderer:	
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TOTAL COST OF ASSIGNMENT, INCLUDING ALL ASSOCIATED EXPENSES AND EXCLUDING VAT :	€
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ANNEX III - CURRICULUM VITAE

EUROPEAN CURRICULUM VITAE FORMAT

PERSONAL INFORMATION

Name

[SURNAME, other name(s)]

Address

[House number, street name, postcode, city, country]

Telephone

Fax

E-mail

Nationality

Date of birth

[Day, month, year]

TOTAL YEARS OF EXPERIENCE

[month, year]

WORK EXPERIENCE

- Dates (from – to)
- Name and address of employer
- Type of business or sector
- Occupation or position held
- Main activities and responsibilities

[Add separate entries for each relevant post occupied, starting with the most recent.]

EDUCATION AND TRAINING

- Dates (from – to)
- Name and type of organisation providing education and training
- Principal subjects/occupational skills covered
- Title of qualification awarded
- Level in national classification (if appropriate)

[Add separate entries for each relevant course you have completed, starting with the most recent.]

**PERSONAL SKILLS
AND COMPETENCES**

*Acquired in the course of life and career
but not necessarily covered by formal
certificates and diplomas.*

MOTHER TONGUE

[Specify mother tongue]

OTHER LANGUAGES

[Specify language]

- Reading skills
- Writing skills
- Verbal skills

[Indicate level: excellent, good, basic.]

[Indicate level: excellent, good, basic.]

[Indicate level: excellent, good, basic.]

**SOCIAL SKILLS
AND COMPETENCES**

*Living and working with other people, in
multicultural environments, in positions
where communication is important and
situations where teamwork is essential
(for example culture and sports), etc.*

[Describe these competences and indicate where they were acquired.]

**ORGANISATIONAL SKILLS
AND COMPETENCES**

*Coordination and administration of
people, projects and budgets; at work, in
voluntary work (for example culture and
sports) and at home, etc.*

[Describe these competences and indicate where they were acquired.]

**TECHNICAL SKILLS
AND COMPETENCES**

*With computers, specific kinds of
equipment, machinery, etc.*

[Describe these competences and indicate where they were acquired.]

**ARTISTIC SKILLS
AND COMPETENCES**

Music, writing, design, etc.

[Describe these competences and indicate where they were acquired.]

**OTHER SKILLS
AND COMPETENCES**

Competences not mentioned above.

[Describe these competences and indicate where they were acquired.]

DRIVING LICENCE(S)

ADDITIONAL INFORMATION

[Include here any other information that may be relevant, for example contact persons,
references, etc.]

ANNEXES

[List any attached annexes.]

ANNEX IV - DECLARATION ON EXCLUSION CRITERIA

(To be completed and signed by each Consortium member, where applicable)

The undersigned:

Name of the individual/company/organisation:

Legal address:

Registration number/ID Card No.:

VAT number:

Declares on oath that the individual/company/organisation mentioned above is not in any of the situations mentioned below:

- a) they are bankrupt or being wound up, are having their affairs administered by the courts, have entered into an arrangement with creditors, have suspended business activities, are the subject of proceedings concerning those matters, or are in any analogous situation arising from a similar procedure provided for in national legislation or regulations;
- b) they have been convicted of an offence concerning their professional conduct by a judgement which has the force of *res judicata*;
- c) they have been guilty of grave professional misconduct proven by any means which the EDA can justify;
- d) they have not fulfilled obligations relating to the payment of social security contributions or the payment of taxes in accordance with the legal provisions of the country in which they are established or with those of the country of the contracting authority or those of the country where the contract is to be performed;
- e) they have been the subject of a judgement which has the force of *res judicata* for fraud, corruption, involvement in a criminal organisation or any other illegal activity detrimental to the Communities' financial interests;
- f) following another procurement procedure or grant award procedure financed by the European Union or the Agency's general budget, they have been declared to be in serious breach of contract for failure to comply with their contractual obligations.
- g) they are subject to a conflict of interest;
- h) they are guilty of misrepresentation in supplying the information required by the contracting authority as a condition of participation in the contract procedure or fail to supply this information

Full name:

Date & Signature:

ANNEX V - LEGAL ENTITY FORM

To be downloaded from the following URL address:
http://ec.europa.eu/budget/info_contract/legal_entities_en.htm

ANNEX VI - FINANCIAL IDENTIFICATION FORM

To be downloaded from the following URL address: <http://www.eda.europa.eu/Procurements>

ANNEX VII - TENDER SUBMISSION FORM

12.R&T.OP.140 - PCB-R - Printed Circuit Board Roadmap for Defence Applications

One signed original of this tender submission form must be supplied, together with **three copies**.

1. SUBMITTED by (i.e. the identity of the Tenderer)

	Name(s) of legal entity or entities submitting this tender	Nationality²
Leader		
Member 2		
Etc ... ³		

2. SUBCONTRACTORS (if applicable)

	Name(s) of the legal entity or entities identified as sub-contractor(s)	Nationality
Sub-contractor 1		
Etc ... ⁴		

² Country in which the legal entity is registered

³ If this tender is being submitted by an individual legal entity, the name of the legal entity should be entered as "Leader" (and all other lines should be deleted)

⁴ Add / delete additional lines for sub-contractors as appropriate

3. CONTACT PERSON for this tender (to act as focal point for all communication which may take place between the EDA and the Tenderer)

Name and position	
Organisation	
Address	
Telephone	
Fax	
e-mail	

4. STATEMENT

I, the undersigned, being the authorised signatory of the above Tenderer (including all consortium members, in the case of a consortium), hereby declare that we have examined and accept without reserve or restriction the entire contents of the tender specifications for the tender procedure referred to above.

We are fully aware that, in the case of a consortium, the composition of the consortium cannot be modified in the course of the tender procedure except with the prior written authorisation of the EDA. We are also aware that the consortium members would have joint and several liability towards the EDA concerning participation in both the above procedure and any contract awarded to us as a result of it.

Our tender is subject to acceptance within the validity period stipulated in point 1.7 of the Tender Specifications and is made up of the following documents:

ENVELOPE A - ADMINISTRATIVE DATA:	
▪ This Tender Submission Form	<input type="checkbox"/>
▪ The duly filled in, signed and dated Exclusion Criteria Declaration(s) by every legal entity identified under point 1 of this Tender Submission Form	<input type="checkbox"/>
▪ The duly filled in, signed and dated Legal Entity Form (<i>using the standard template referred to in Annex V to the Tender Specifications</i>) and the supporting documents requested therein, by every legal entity identified under point 1 and point 2 of this tender submission form	<input type="checkbox"/>
▪ The duly filled in, signed and dated Financial Identification Form (<i>using the standard template in Annex VI to the Tender Specifications</i>) to nominate the bank account into which payments would be made in the event that our tender is successful	<input type="checkbox"/>
▪ Documents proving the economic and financial status (as requested in point 3.2.2 of the Tender Specifications) of every legal entity identified under point 1 of this tender submission form	<input type="checkbox"/>
▪ Documents proving our technical and professional capacity (as requested in point 3.2.3 of the Tender Specifications)	<input type="checkbox"/>
▪ Duly authorised signature , i.e. an official document (<i>statutes, power of attorney, notary statement, etc.</i>) proving that the person who signs on behalf of the Tenderer is duly authorised to do so	<input type="checkbox"/>
▪ Our consortium agreement/ consortium statement duly signed and dated by each of the consortium members specifying the company or person heading the project and authorised to submit a tender on behalf of the, as requested in point 1.4 of the tender specifications	<input type="checkbox"/>
ENVELOPE B - TECHNICAL PROPOSAL (one signed original and three photocopies and providing all information requested in point 4.2 of these specifications).	<input type="checkbox"/>
ENVELOPE C - FINANCIAL PROPOSAL (one signed original and three photocopies using the template in Annex II), which is submitted in a separate, sealed envelope.	<input type="checkbox"/>

Signed on behalf of the Tenderer

Name	
Signature	
Date	