1st Call for Outline Proposals under the Requesting Party Activity (RPA) in

AO/1-10636/21/NL/SC

28 January 2021

DISCLAIMER

This presentation material does not contain sufficient information to be used, in any way, in the context of the ITT (Invitation-to-Tender) AO/1-10636/21/NL/SC.

This presentation is just to help understand, in a simplified manner, some of the Rules and Procedures associated with ESA procurements and in particular of this ITT.

Please ensure that your Outline Proposal is compliant with the requirements contained in the ITT AO/1-10636/21/NL/SC documentation that will be published on EMITS.

COVID-19

Tenderers are requested to submit "nominal offers" i.e. without any reservations concerning the expected impacts of the COVID-19 pandemic.

The Contract eventually to be concluded with the recommended Tenderer will be based on the circumstances prevailing (i.e. related to COVID), to the best knowledge of both parties, at the time of the contract negotiations. This whilst preserving the principle of fair competition by ensuring that the basis for recommendation of the selected winner is not altered.

Requesting Party Activities Programme (RPA)

Slovenia signed the first Associate Member agreement in 2016 and on 8th of December 2020 the new „AM+" agreement. Requesting Party Activities scheme is part of new AM+ agreement and provides a funding scheme to further develop the national space industry.

RPA aims at providing support to Slovenian entities to overcome market entry barriers and reach a competitive level for successful participation in multinational ESA programmes. The goals are:

- To prepare their industry to be competitive in ESA optional programmes Slovenia subscribes to;
- To develop competences that enable the country to contribute to new ESA optional programmes;
- To support space science activities (should Slovenian government wish);
- To ensure a highly educated workforce is available for space related activities.

Slovenia decided, in the short term:

- In 2021 to hold 2 RPA calls: 1st with the budget of 500k euro and second with the budget of 700k euro
- In 2022 one call with the budget of 900k euro.

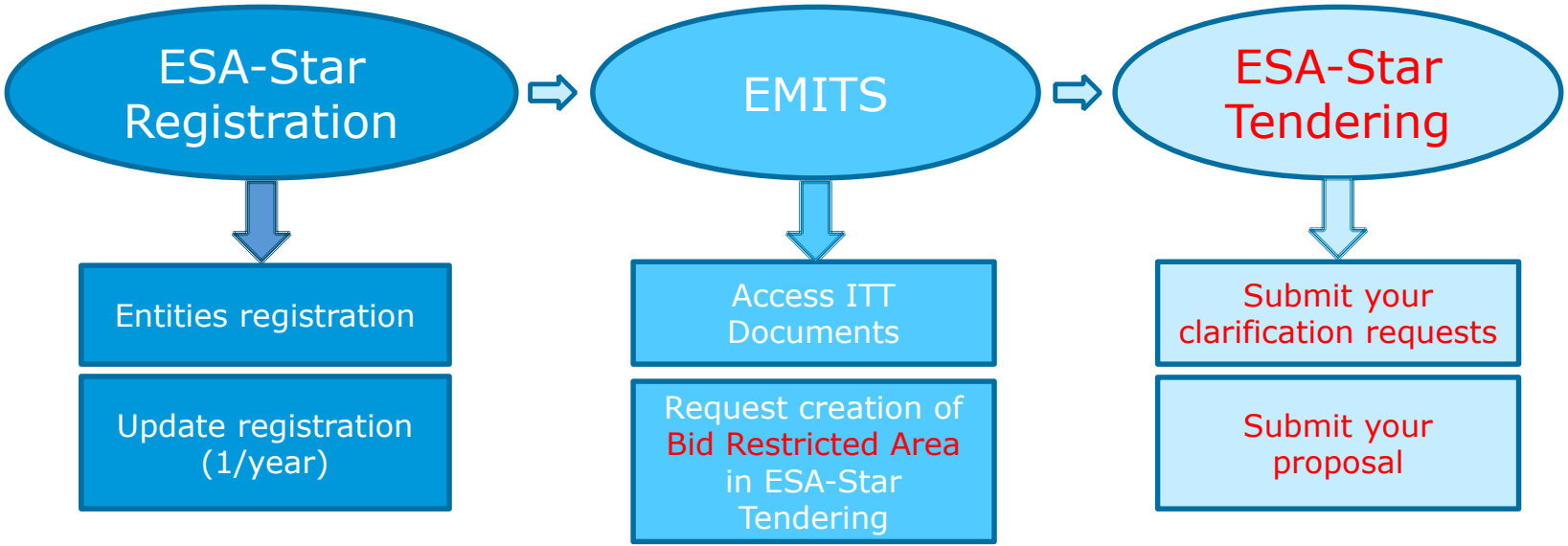
Summary of presentation

1. ESA Tools - Basics of ESA Procurement
2. ITT Package for Open Call for Outline Proposals
   a) Cover Letter
   b) Draft Contract
   c) Tendering Conditions
   d) Proposal Template
3. The Tender Evaluation
4. The Negotiation Period
5. Debriefing
6. Schedule
7. Questions
8. How to write a good proposal

1. ESA Tools - Basics of ESA Procurement (1/2)

Main tools supporting the procurement process are:

- **ESA-STAR**: ESA's online System for **Registration and Tendering**
- **EMITS**: ESA's online system for publishing **Invitation-to-Tenders (ITT)**



1. ESA Tools - Basics of ESA Procurement (2/2)

a) ESA-STAR Registration (https://esastar-emr.sso.esa.int/)
Registration on ESA-STAR is a **pre-requisite** to do business with ESA

b) EMITS (https://emits.esa.int/)
All ITT related documents can be found in EMITS. Here you request the system to create a **Bidder Restricted Area** in ESA-STAR Tendering

c) ESA-STAR Tendering (https://esastar.sso.esa.int/)
In the Bidder Restricted Area you can request for clarifications and **submit the proposal**

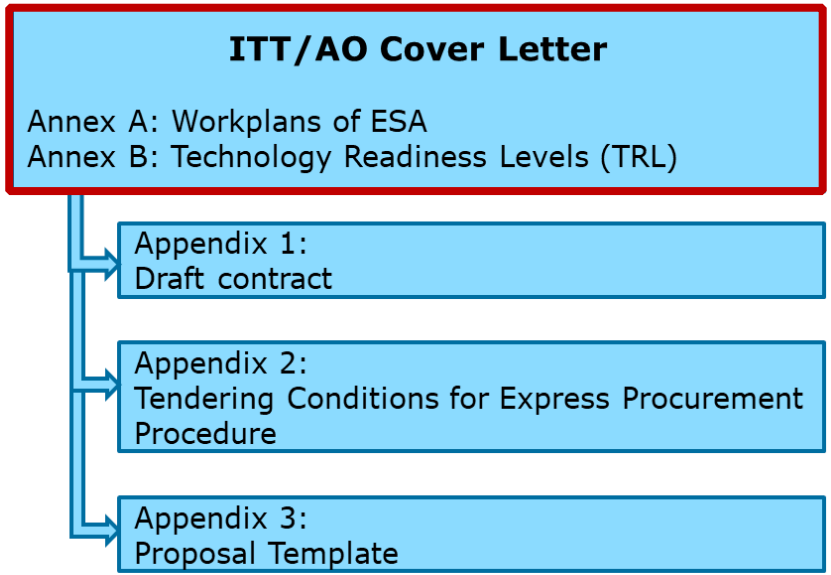
Video:

http://www.esa.int/spaceinvideos/Videos/2016/03/Bidder_Restricted_Area_creation_and_structure

2. ITT Package - Call Overview

ITT Reference: AO/1-10636/2021/NL/SC

NB! **Not** a permanently open call!



ITT published on **29th of January 2021**

Submission Deadline on **15th of March 2021**

Maximum budget: **500k Euros**

First contracts: **Q3/Q4 2021**

2. ITT Package – Cover Letter

Image of first page

estec

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and Technology Centre
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T +31 (0)71 565 6565
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Ms Sandy Courtois (IPL-PTS)
Tel. +31 71 565 8230
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Subject: **Invitation to Tender for the First Call for Outline Proposals under the Requesting Party Activity (RPA) in Slovenia.**

REF.: AO/1-10636/21/NL/SC

Activity No. 1000030916 in the "esa-star" system

ITEM No.: 20.179.11 in the list of ESA intended Invitations to Tender

BUDGET LINE: E/0874-06-K

CATEGORY: ESA EXPRESS PROCUREMENT (EXPRO+) / OPEN-COMPETITIVE

Dear Sir or Madam,

The European Space Agency ("the Agency") and the Ministry of Education and Science of Slovenia hereby invite you to submit an outline proposal, in the frame of the First Call for Outline Proposals under the Requesting Party Activity in Slovenia.

This Invitation to Tender (ITT) has been established and will be processed following the approach, tailored to low- to medium-value procurement actions, called **"EXPRESS PROCUREMENT Plus – EXPRO+"** and a competitive evaluation procedure will be used.

Your tender is required to conform to the conditions specified in this letter and in the applicable appendices.

Your tender shall be submitted **exclusively in electronic format via the "esa-star" system** [see: https://esastar.sso.esa.int/]. The EXPRO/Tender Conditions contain further information on "esa-star" and its operation.

2. ITT Package – Cover Letter

The Cover Letter contains a number of **essential features** regarding the ITT e.g.

- The name of the responsible **Contracts Officer** (S. Courtois)
- **Submission deadlines** for evaluation
- All **programmatic** and **price constraints**
- Description of the **process of evaluation** and selection
- **Evaluation criteria**
- **Instructions and restrictions** for proposals submission

Read the Cover Letter carefully and be sure to comply

2. ITT Package – Cover Letter

The Cover Letter indicates the formal conditions of submission, i.e. the **exact duration of the tendering period and the exact date (15th of March 2021) and time (13:00 hours CET)** by which proposals must be submitted.

The ITT/AO is expected to be published on the

29th of January 2021

2. ITT Package – Cover Letter - What to submit?

<u>See section 1 of the COVER LETTER</u>:

The present Call for Outline Proposals is addressed only to Slovenian companies (including SMEs) or academic and research organizations. Potential Tenderers are therefore requested to note that the Agency can only consider Proposals from companies or organizations residing in Slovenia. Tasks may be assigned to non-Slovenian entities residing in other ESA Member States. Such tasks shall in any case not constitute the core activities of the proposed study or development and **shall not exceed 20%** of the total price.

2. ITT Package – Cover Letter - What to submit?

Tips – when to include a sub-contractor:

- If your company/institute has no expertise in space activities an European partner may be part of the team (as sub-contractor) but you have to ensure that you are doing the core activities.

  Example: a potential customer, defining requirements and/or specifications or performing tests and/or qualification.

- if test or qualification facilities are necessary and these are not available in the country or the know-how to do it, you may have an European partner within the ESA Member States (as sub-contractor or service provider).

- Be sure to **explain** clearly what the sub-contractor is doing and **why they are needed**

2. ITT Package – Cover Letter - What to submit?

<u>See section 3 of the COVER LETTER</u>:

The total maximum budget for this ITT is:
500.000 Euros (five hundred thousand Euro).

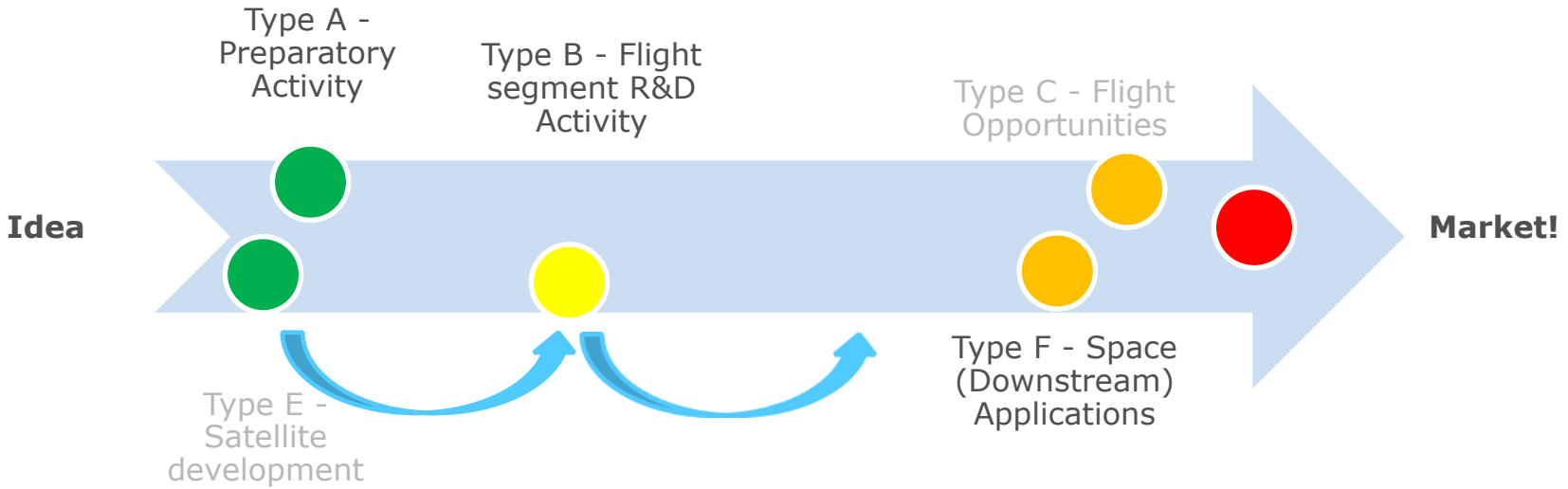
2. ITT Package – Cover Letter - What type of activities?

The subject of this ITT is exclusively for the following activity types:

a. Type A – Research and preparatory ativity
b. Type B – Flight and ground segment related research and development activities
c. Type C - Flight Opportunities – NOT APPLICABLE FOR THIS CALL
d. Type D - Space science activities - NOT APPLICABLE FOR THIS CALL
e. Type E - Satellite development - NOT APPLICABLE FOR THIS CALL
f. Type F - Space (downstream) Applications.
g. Type G - Education activities - NOT APPLICABLE FOR THIS CALL
h. Type H – Space related courses - NOT APPLICABLE FOR THIS CALL

2. ITT Package – Cover Letter

What type of activities? Expected flow



2. ITT Package – Cover Letter - What type of activities?

TYPE A - Research and preparatory activities (e.g. feasibility studies/demonstrators, conceptual design work, competitive landscape survey, user requirements and breadboard based demonstrators) aimed at **preparation** for participation in ESA **optional programmes** or the initial steps of a **product development** for Space, with potential for use on future ESA missions or commercial missions.

Constraints:

- Min start TRL: 1
- Max end TRL: 3
- Price not higher than **100 000** euro
- Min mark for recommendation: **50**
- Expected duration: 9-15 months
- Max number of project to be accepted per call: **2**

- *This is essentially a Slovenian only TRP with open call.*
- *Very good for start-ups and companies new to space.*
- *Can support both subscribed programmes and those you want to subscribe to in the future.*

2. ITT Package – Cover Letter - What type of activities?

TYPE B - Flight and ground segment related research and development activities in the form of equipment (including space science payload) to build competences and capabilities centred on products or generic technology development with **potential for re-use on ESA or commercial missions**. Ground equipment (EGSE, ground stations or test equipment related) may also be considered but with a lower ceiling price. Such activities being restricted to those related to optional programmes that the country does not currently contribute to but has ambitions to contribute to in the near future and still needs to build competences.

Constraints:

- Min start TRL: 3
- Max end TRL: 5
- Price not higher than **300 000** euro (flight related)
- Price not higher than **250 000** euro (ground related)
- Must be led by industry
- Academia cooperation is encouraged
- Must include a potential end customer
- Cannot overlap with ESA OP that Slovenia subscribed to
- Minimum mark for recommendation: **60**
- Expected duration: 15-24 months
- Max number of project to be accepted per call: **2**

- *Preparation and support for future subscriptions to ESA programmes.*
- *Building a sustainable business based on products.*
- *Path to payloads on ESA missions.*

2. ITT Package – Cover Letter - What type of activities?

Type F - Space (downstream) Applications. Products and services making use of ESA/ European space infrastructure that is already existing or scheduled for operation in the near term. The goal is to ensure the demonstration of a product to a first customer with **focus on governmental customers**. Such activities shall **not overlap with ESA optional programmes** and shall have a **company contribution**.

Constraints:

- Min start TRL: 5
- End TRL: 8
- Must be led by industry with the capability to commercialise the service, may include academia for technical support
- Must include an end customer
- Minimum mark for recommendation: **60**
- Price not higher than **120 000** euro
- **Must be co-funded** by at least 25% by industry (i.e. ESA pays 120K Euro but cost is at least 160K Euro)
- Max number of project to be accepted per call: **3**

- *Enter the market with space technology based products, enable sustainable business.*

2. ITT Package – Cover Letter - Annex B: TRL

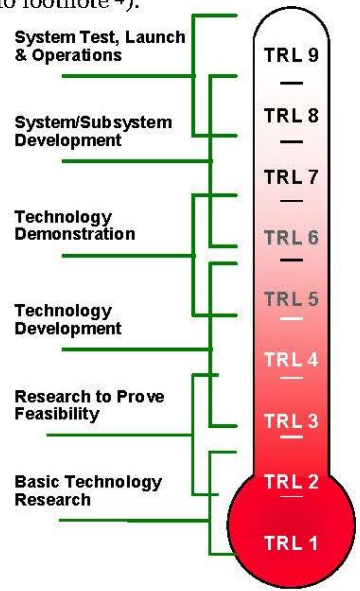
ANNEX B of the Cover letter

- **Technology Readiness Levels (TRL)**
  - Outline Proposal requires that you identify the start and target TRL of the proposed activity.
  - Contains information to help you identify the start and target TRL.
  - TRL is given for Software, Applications and Services as well as Commonly Used Engineering Terms.

2. ITT Package – Cover Letter: Annex B - TRL

ANNEX B

ESA has adopted the Technology Readiness Level (TRL) scale as a way to measure the maturity of a technology. It has now become a well-established standard. Indicate the TRL of the technology to be developed under the Contract using the classification given below(for additional information on definitions, please refer to footnote 4).



Technology Readiness Levels	
9	Actual system "flight proven" through successful mission operations
8	Actual system completed and accepted for flight ("flight qualified")
7	Model demonstrating the element performance for the operational environment
6	Model demonstrating the critical functions of the element in a relevant environment
5	Component and/or breadboard critical function verification in relevant environment
4	Component and/or breadboard functional verification in laboratory environment
3	Analytical and experimental critical function and/or characteristic proof-of-concept
2	Technology concept and/or application formulated
1	Basic principles observed and reported

Type F

Type B

Type A

Figure 1 – Technology Readiness Levels adopted in ESA

Regarding the maturity status of software the same number of TRL are indicatively used. A short description using software engineering terms is shown in Figure 2.

2. ITT Package – Cover Letter - What content?

See Section 6 of the Cover Letter

6. General programmatic objectives and constraints:

a) The proposed activity shall have potential for further use or development in at least one of the following:

- ESA Mandatory activities (ESA Science programmes, technology programmes) or in ESA Optional programmes that Slovenia subscribe to or intends to subscribe to;
- foster the development of space-related capabilities, especially in industry;
- address specific niche markets (no competitive products available elsewhere in Europe or when a second source would be an asset);
- foster the creation of strong and long-term relations between national firms and well-established space firms in ESA Members States;
- foster the creation of strong and long-term relations between national firms and national universities and research institutions.

2. ITT Package – Cover Letter - What content?

See Section 6 of the Cover Letter

b) In addition, the technical subject shall take into account the following special interests:

- activities leading to cross-sectorial products/services relevant to different types of satellite missions that are used in several types of satellite platforms**;**
- activities that prepare the participation of Slovenia in ESA Mandatory activities or in ESA Optional programmes that Slovenia subscribes to or intends to subscribe to;
- activities having the potential to increase competiveness and bring long-term benefits to Slovenian industry and to the Republic of Slovenia in its participation in space activities;
- activities having the potential to stimulate economic growth or other societal benefits within Slovenia in the medium-term (i.e. within five years) and on a long term sustainable basis;
- Activities having the potential to develop key space competences in Slovenia;

2. ITT Package – Cover Letter - What content?

See section 6 of the COVER LETTER:

d) Tenderers shall **avoid duplication** of ongoing and intended activities in ESA activities and **any overlap with the scope of optional programs** where Slovenia subscribes. Such duplication and overlap may lead to rejection of the proposal. Currently Slovenia subscribes to **GSTP, E3P, Prodex and "Future EO"** programmes hence this ITT shall not be seen as an alternative for the funding available from these programmes. Duplication of activities carried out in EU (or Public) programmes may also lead to rejection. The documents in Annex A hereto provide visibility of the workplans of ESA and details the optional programs to which Slovenia subscribes. However, complementarity to these activities is allowed.

Programmatic Alignment: Search the workplans (documents) and the websites supplied (ANNEX A of the COVER LETTER) to be sure that your idea/proposal is not already covered. If it is, your proposal will be rejected.

2. ITT Package – Cover Letter - What content?

See section 6 of the COVER LETTER:

e) Infrastructure and tools:

The procurement of infrastructure and generic tools (Hardware and software) is considered out of scope of the ITT.

2. ITT Package – Cover Letter – Annex A: Workplans

ANNEX A of the Cover letter

- Links to workplans for all relevant ESA programmes
  - Discovery, Preparation, Technology Development (DPTD)
    - Discovery and Preparation Programme
    - Technology Development Element (TDE)
  - Science Core Technology Programme (CTP)
  - European Exploration Envelope Programme (E3P)
  - General Support Technology Programme
  - Earth Observation
  - Global Navigation Satellite System
  - Advanced Research in Telecommunication Systems (ARTES)
  - Space Situational Awareness
- **Intended** Invitations-to-Tender (EMITS) covering all ESA Programmes
- Currently **Open** Invitations to Tender (EMITS) covering all ESA Programmes

A potential Tenderer must check if their planned activity is already in ESA plans and Intended Invitations to Tender (ITT).

2. ITT Package – Cover Letter

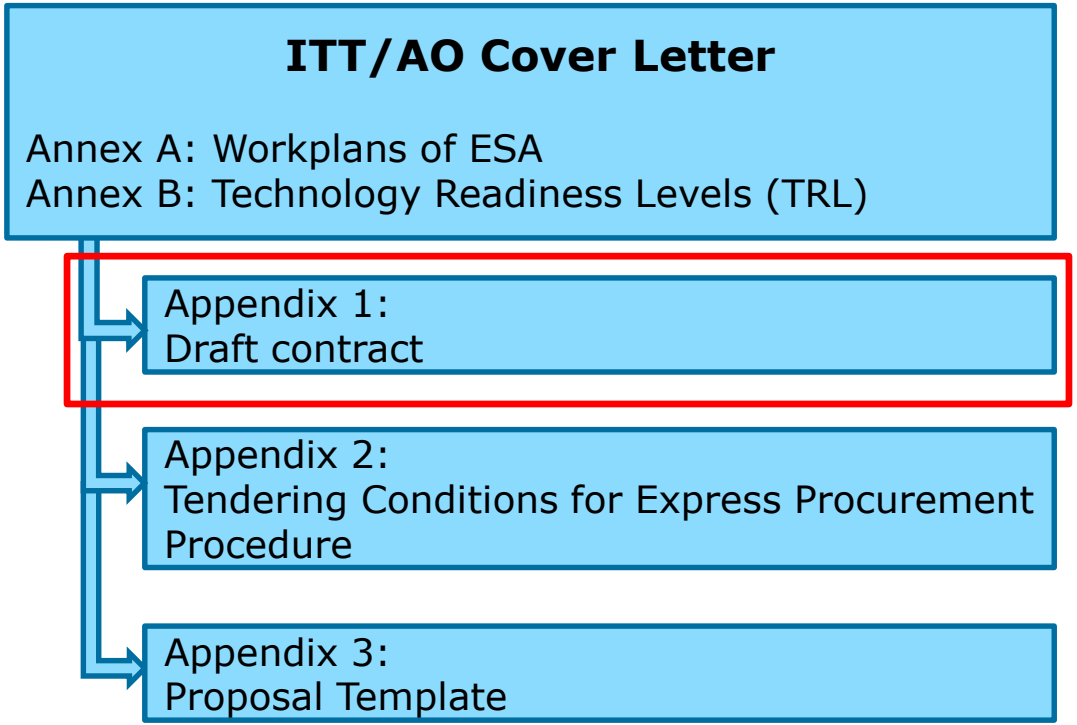
Compliance and number of proposals

Number of proposals for submission per Tenderer

The number of proposals per Tenderer (as prime contractor) is restricted to a maximum **of 2 (two) independent and unrelated** proposals whereas **one Tenderer** can only be awarded **one contract** per call.

- You are required to clearly state that you **accept all terms and conditions of the Draft Contract** (see point 10 of the Cover Letter of the Proposal Template);
- Your tender is **valid during a period of fourteen (14) months** from the date of tender submission.
- **The total number of pages for the proposal shall not exceed 25.** These 25 pages exclude the Cover Letter, the PSS forms and Annexes (if any).

2. ITT Package – Appendix 1: Draft Contract

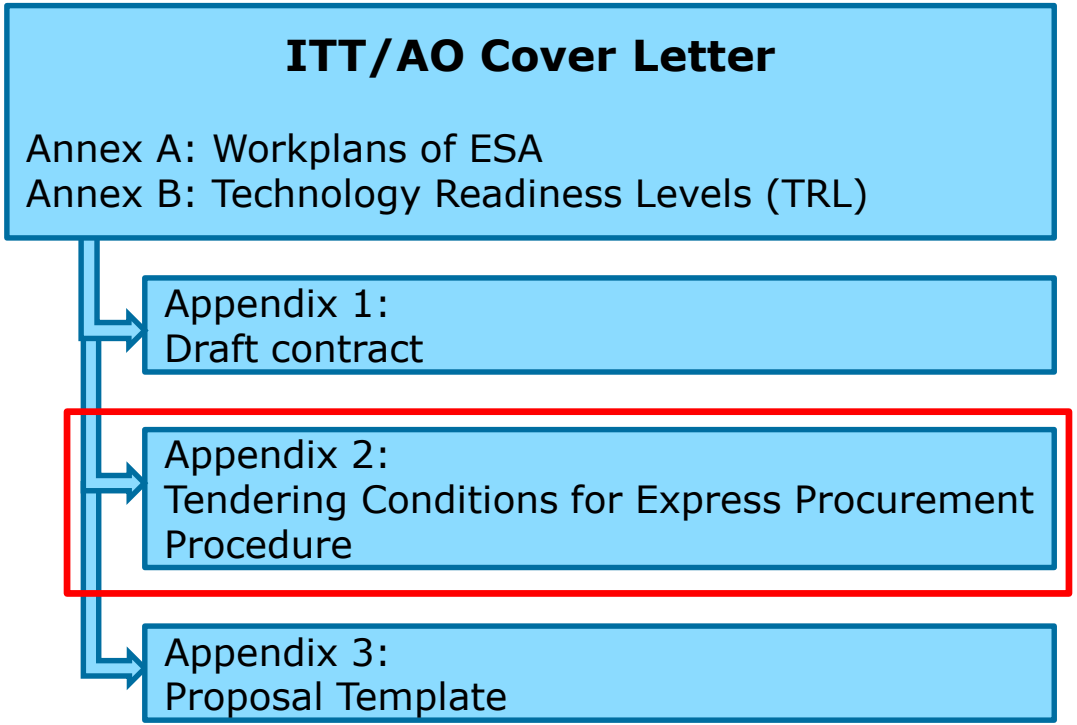


2. ITT Package – Appendix 1: Draft Contract

Full compliance to terms and conditions are expected

- The draft Contract, is based on the EXPRO (+) Contract and the "relevant" parts of the ESA General Clauses & Conditions (ESA GC & C) are embedded in the Contract with some adaptations.
- The Clauses with an "Option" will be finalised at the negotiation stage
- the Draft Contract is tailored for straightforward contracts, should the activity be more complex (e.g. flight hardware activities) the Contract will be adapted accordingly.
- The Annexes form an integral part of the Contract.
- New addition to ESA contract template: Personal Data Processing Annex.

2. ITT Package – Appendix 2: Tendering Conditions



2. ITT Package – Appendix 2: Tendering Conditions

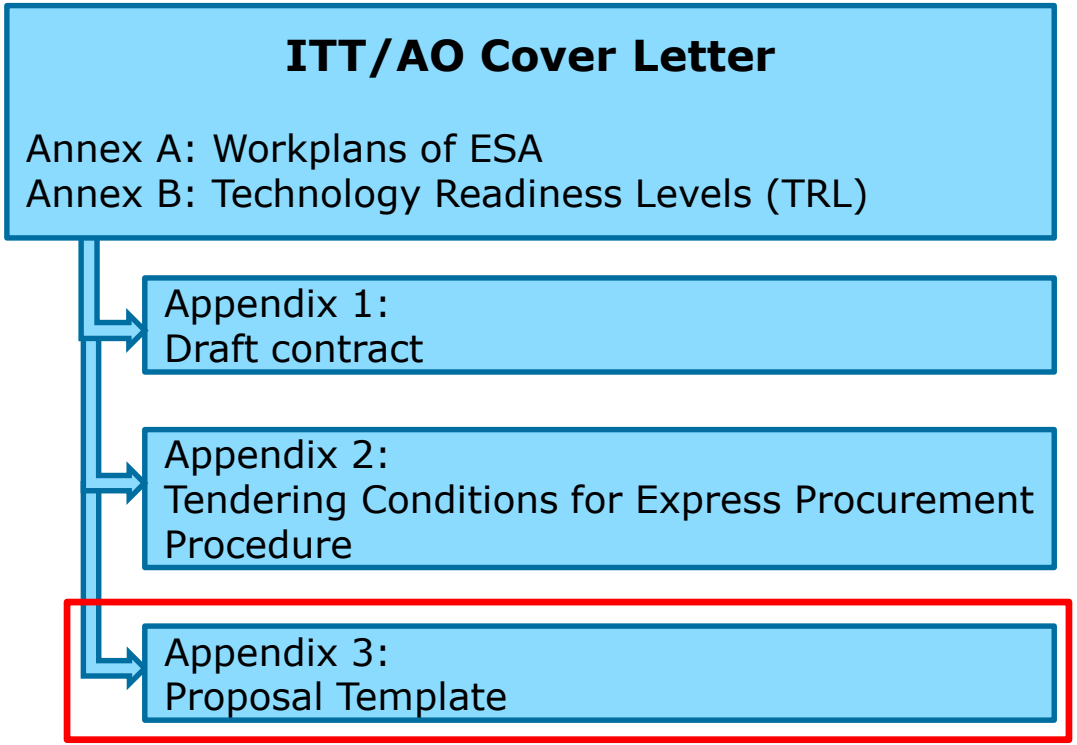
- The **EXPRO (+) Tendering Conditions** ("EXPRO/TC") apply instead of the ESA General Conditions of Tender.

- What type of Information will you find ?
  - Formal conditions for tendering (eligibility, negotiation, retention etc.)
  - Compliance and Key Acceptance Factors
  - Communication with ESA
  - Proposal submission conditions
  - General considerations regarding ESA-STAR

- The **Proposal Template** support the compliance with the Special Conditions of Tender.

NOTE: Annex II to the Tendering Conditions contain important practical information for submitting proposals to ESA-STAR.

2. ITT Package – Appendix 3: Proposal Template



2. ITT Package – Appendix 3: Proposal Template

Structure of the Proposal Template:

- **Cover Letter** – **MUST** be signed
- **Part 1** – Technical and Application Part
- **Part 2** – Management Part
- **Part 3** – Financial Part
  - ✓ The PSS forms MUST be submitted by both the Tenderer (contractor) and his sub-contractors (one set each).
  - ✓ Please note that all PSS forms **MUST** be signed.
- **Part 4 –** Contract Conditions Part

2. ITT Package – Appendix 3: Proposal Template

IMPORTANT INFORMATION

- All red font paragraphs of the template are for your information Only. The red font must be deleted.
- **NO CHANGE** in the structure, title headings, margins, font are allowed.
- When submitting to ESA-STAR, two document shall be submitted:
  - The signed Cover Letter
  - One single file collating the signed Cover Letter, the proposal, the signed PSS forms and Annexes, if any.
- The total number of pages for the proposal shall not exceed 25 pages. These 25 p. exclude the Cover Letter, the PSS forms and Annexes(if any).

3. The Tender Evaluation Board (TEB)

- After the announced submission deadlines, there is a formal opening (Tender Opening Board) of the outline proposals that have been submitted. The compliant proposals will be accepted for evaluation by the **Tender Evaluation Board (TEB)**. Non-compliant proposals will be rejected and not evaluated.

- TEB is composed of ESA staff supported also by ESA experts in the specific area of the proposal.

- Statement of Non-Disclosure and Non-Interest Form signed by all TEB members.

- The TEB members independently assess proposals, then the board convenes to discuss comments and mark the proposals. A TEB report is written containing all details of the collective evaluation.

- A summary of the TEB report with the technical evaluation, ranking of proposals and recommendations is submitted to the RPA board. **No detailed financial information (e.g. hourly rates) will be disclosed.**

3. The Tender Evaluation - Evaluation Criteria

No.	Criteria	Weighting Factors %
1	Clarity of the technical objectives and definition of the requirements for the proposed work. Quality of engineering approach and discussion of problem areas. Quality and suitability of proposed programme of work. Background and experience of the entity/entities related to the particular field concerned, including adequacy of proposed facilities. Adequacy of the key personnel for the execution of the work.	40 %
2	Prospects for use in ESA programmes including long term benefit for Latvia. Consistency with programmatic objectives and constraints as described in the Cover Letter. Adequacy of the current and targeted maturity status of the development. Consistency of the IPR policy in regards to the role of the industrial partners.	30%
3	Adequacy of management approach. Rationale of the industrial organisation. Credibility of the cost estimation and the proposed schedule.	25 %
4	Compliance with the administrative tender conditions of the call for outline proposals and acceptance of the draft contract.	5%

3. The Tender Evaluation
Evaluation Criteria

Taking into account the Weighting Factors, the importance of the Criteria in descending order is:

- Criterion 1 – Technical
- Criterion 3 – Management and cost
- Criterion 2 – Programmatic
- Criterion 4 – Legal and administrative

ESA Marking:

100 Perfect

90 Excellent

75 Very good

60 Good

50 Fair

40 Barely acceptable

<40 Below acceptability

Please note that only proposals with an overall mark **above 60** (50 for activity Type A) will be submitted to the RPA Board for programmatic review and possible recommendation for implementation

3. The Tender Evaluation - Programmatic Review

ESA with the RPA Board performs the programmatic evaluation of the proposals, **with an overall mark higher than 60 (50 for activity Type A)**:

1. Takes into account the TEB report containing the technical evaluation, marks, ranking and recommendations;
2. Considers the available budget, the programmatic priorities and national interests;
3. Recommends activities for implementation (subject to final approval by ESA programme boards);
4. This meeting is planned in May 2021.

4. The Negotiation Period

<u>See section 11.e) of the COVER LETTER</u> :

e) For the finally recommended proposals, ESA will either

i) **start the negotiation process to place a contract with the Tenderer on the basis of the submitted Outline Proposal and the comments from the TEB**; or

ii) issue a request for a full proposal, especially hardware related activities, to those Tenderers that submitted the selected outline proposals; or

iii) decide to issue a competitive invitation to tender restricted to the Tenderers positively evaluated if two or more proposals on the same subject were positively evaluated.

5. Debriefing – unsuccessful proposals

<u>See section 11.f) of the COVER LETTER</u> :

f) The contact person of the Prime Contractor mentioned in the proposal (see point 7 in the Cover Letter of the Proposal Template) will be informed in writing of the result of the ITT after a decision has been taken. If the proposal has been unsuccessful, the Tenderer may request the nominated the Agency's Contracts Officer to advise him of the reasons why the proposal has not been retained in a **verbal debriefing**. Any information will be limited to the Tenderer's own proposal.

<u>Important: ask for a debriefing</u>!

It is the best way of learning why your proposal was not recommended and what you need to improve!

Suggestion: even if your proposal was recommended, ask for a debriefing during the negotiation.

6. The Evaluation Process - Expected schedule

- Publication in EMITS
  - 29th of January 2021
- Deadline for Submission of Outline Proposals
  - 15th of March 2021
- Tender Evaluation Board (TEB)
  - **30th of April 2021**
- First communications to Bidders: 4 to 6 weeks after the meeting
  - negative outcomes will be communicated first
  - positive outcomes will be conditional to approval by ESA IPC
- First contracts based on Outline Proposal
  - Q3/Q4 2021

7. Questions?

For questions related to specific projects or issues use the one-on-one sessions. In the one-on-one sessions please do not ask general questions – they are very limited in time.

For issues **DIRECTLY** related to this Call contact (**RPA Contract Officer**):

Email: sandy.courtois@esa.int Phone: +31 71 565 8230

For issues **NOT** related to this Call, feel free to contact:

Email: karol.brzostowski@esa.int Phone: +31 71 565 6976

How to write a good proposal for ESA RPA programme

HOW to WRITE a GOOD PROPOSAL
Summary of presentation

- Disclaimer
- The proposal template cover letter
- The proposal template Part 1 – Technical
- The proposal template Part 2 – Implementation
- The proposal template Part 3 - Financial
- The proposal template Part 4 - Contractual

DISCLAIMER

This presentation material does not contain sufficient information to be used, in any way, in the context of any ESA ITTs (Invitation-to-Tender).

This presentation is just to help understand, in a simplified manner, some of the key elements associated with ESA proposals.

Proposal templates can vary, however, some main elements are provided in this presentation to serve as an example and guidance. Do not copy any part of the examples given.

Please ensure that your Outline Proposal is compliant with the requirements contained in the specific ITT documentation.

Proposal Template (and hints and tips)

During this presentation we will draw your attention to **common mistakes** and oversights in proposals. It is not a prescriptive 'do it like this' list and the material must be sensibly applied to your particular case.

There is no substitute for **a good idea.** This presentation will only help you to present your idea in a way it can be **understood by reviewers**.

Please ensure that your Outline Proposal is compliant with the ITT conditions of tender and cover letter – each ITT can be different. Do not use a previous template from any other ITT.

REMEMBER:
ESA is only allowed to evaluate what is in the 25 pages of the proposal – do not assume that the reviewers have "your common knowledge" or that "it is commonly known". We cannot evaluate intentions, "read in-between-the-lines" or guess what you mean. We are only allowed, outside of the proposal, to consult EMITS or other ESA internal information.

The TEB members have to read typically 20+ proposals in total per TEB – the easier you make it for them to read and understand, the better.

Proposal Template - Cover letter

Contains details on:

- **Title**
- The team submitting the proposal
- **Cost** of the proposal
- What **type** of activity (**a**, **b**, c, **d**, e, **f**, **g** or h)
- **Duration** of the proposal
- Who is the point of contact
- Acceptance of contract conditions
- Statement concerning export restrictions
- Statement on free competition
- Legal representative
- Validity of the proposal
- **Amount of co-funding (Type f only)**
- **Whether Ground or Space based (Type B only)**
- etc.

It MUST be signed

REMEMBER: By signing the cover letter you are accepting the contract conditions – so do not, in the proposal, state that you want to modify them.

Proposal Template - Title

Hints and tips: The Title

Each call may have many proposals. To aid reviewers, pay attention to the title of your proposal. It should prepare them for what they are about to read and clearly identify your proposal:

- Keep it short
- Keep it clear
- Make it descriptive and relevant
- Do not waste time to think up overly long titles or try to force acronyms for the project.

Examples

- Simple and concise – but OK: *"Increasing coffee sales by responding to customer demands"*
- Overly long and unnecessarily complex: *"Investigating and testing various methods of maximising financial revenue and fiscal returns resulting from bean derived hot beverages sales in a customer focused environment using direct market feedback and other methods."*
- Trying too hard for an acronym: *"Cash maximising Objectives for increased Financial and Fiscal returns in a European Environment for HOt Beverages Sales (COFFEE HOBS)"*

Proposal Template Part 1

Technical Part

Proposal Template
Part 1 – Technical and Application Part

1.0 INTRODUCTION AND SCOPE

1.1 TECHNICAL OBJECTIVES

1.2 REQUIREMENTS

1.3 TECHNOLOGY READINESS LEVEL

Proposal Template
Part 1 – Technical and Application Part

1.0 INTRODUCTION AND SCOPE

Provide the background and rationale of what you are proposing to do. Keep it succinct (not more than half a page), but clear enough to provide sufficient context for your development.

1.0 INTRODUCTION AND SCOPE

*Hot beverage production has experienced a revolution in the last 10 years, where **the demand for a billion cups** of coffee brewed daily worldwide (ref) has **increased the market dominance** of **big coffee maker chains** largely due to the large output and easy operability of the **custom coffee machines**, which are often **unavailable for smaller companies.** However, **recent increase** in consumer awareness and **demand** for ever-increasing variety in choice and quality provides an **opportunity for the resurgence** of high-quality coffee providers and **creates the need** for new and **competitive solutions** for the production of hot beverages. Further**, technological advances** in high pressure systems and autonomous systems could offer significant improvements in hot beverage production, while addressing such consumer needs. Taking into consideration the known parameters and procedures defining the quality of coffee, and **utilizing recent technological improvements** (particularly in the areas of autonomous systems, microdiffusion and the safe handling of high pressure systems) in conjunction with COTS components, allows for a **rapid development** of a **competitive and efficient next generation hot beverage maker** which will be able to successfully **compete** with and improve on those used by the currently dominant large coffee shop chains. The availability of such a product will **help to save the increasingly under pressure independent retailers.***

Proposal Template
Part 1 – Technical and Application Part

1.1 TECHNICAL OBJECTIVES

The Objective is what you hope to achieve with the proposal (i.e. the end goal) and the key constraints or conditions under which that should be met. This is sometimes called the mission goal in texts. In theory, everything you propose to do should be derivable from this statement.

1. Objectives should:
    1. Be **short** (1 to 3 sentences)
    2. Be **clear and verifiable**
    3. Contain the **core essence** of what should be achieved

2. Objectives should not:
    1. Describe the work to be done, the work flow or how to do it
    2. Describe the nice to haves/ options
    3. Be overly long and descriptive

"'…this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to Earth" **– this was the objective stated for a 24 Billion dollar project.**

In **'Application'** part of the proposal you should justify **WHY** this is a good objective and how it fits the programmatic constraints!

Proposal Template
Part 1 – Technical and Application Part

HBM example:

1.1 TECHNICAL OBJECTIVES:

We propose to develop a **fully automated, high efficiency Hot Beverage Maker** (HBM) named 'Coffee Master 2000', **up to and including a prototype** fully representative of the final product. For a **commercially competitive development**, such design improvements will be realized **within 18 months**.

The Coffee Master 2000 shall be **more efficient and versatile** than currently available machines, as well as **competitively priced**, with the aim of a final product with a **recurring cost of less than 2000 Euros** delivering beverages at a cost of less than **25cents/cup**.

Proposal Template
Part 1 – Technical and Application Part

1.2 REQUIREMENTS

For proposals, requirements are the **key measureable features** that the product or the work must meet in order to be declared successful. They should take into account what the end user needs/considers important.

Requirements are:
- Clear, verifiable, quantitative and measureable.
- Requirements tell you what needs to be achieved / realized
- Requirements are what we all use to measure if the objectives were achieved

Note: Ideally requirements will also be justified in the proposal.

Requirements are not:
- The facilities, tools, experience or personnel that you *need* to perform the work.

If you are not in a position to properly define a full set of clear, well formulated requirements then consider to either look at a preparatory activity or include an activity focused on requirement definition and include a work package to this end.

Proposal Template
Part 1 – Technical and Application Part

Example (in a cafeteria):

Well formulated requirements:
- The coffee shall be served at a temperature between 85 and 90°C.
- The coffee shall be delivered to the customer within 4 minutes of being ordered.
- The coffee shall be dispensed in 200ml +/- 10ml servings.
- The customer shall receive a biscuit with each coffee, included in the price of the coffee

Poorly formulated requirements:
- The coffee has to be a good temperature
- The coffee must be served quickly
- The coffee shall have big serving sizes
- We want people to have biscuits with their coffee

Not a requirement at all in this sense:
- We need to buy a kettle and coffee cups
- We need to hire someone to make the coffee
- We should do a trade off on what biscuits to give
- We shall get a coffee sellers license

Proposal Template
Part 1 – Technical and Application Part

Requirements RCM1 and RCM7 are considered to be key to achieving the set objectives, defining the expected output (efficiency) and the cost (competitiveness) of the hot beverage production unit.
….
….
The key design drivers are RCM2,3,4,6 and 11, as the design trade-offs to address these will have the largest influence on the main elements of the unit.

Table 1: Technical Requirements

No.	Req.	Discussion	Verification
RCM6	The HBM shall have a recurring cost of less than 2,000 Euros	Preliminary cost estimation 1700 (+/-300) EUR. Note that this is dependent on the RCM4.	Analysis
RCM7	The running costs of the HBM (excluding the salary of the operator) shall be less than 0.2 Euro per beverage.	This requirement is key to ensuring the competitiveness of the customer.	Analysis

Proposal Template
Part 1 – Technical and Application Part

1.3 TECHNOLOGY READINESS LEVEL

Indicate and **substantiate** the current TRL level of the technology.
Refer to **Annex B** to the ITT Cover Letter for the description of TRLs.
Please note that the type of activity proposed, Type a, b or c has to be **compatible** with the start and end TRL indicated in the **Cover Letter** of the call.

The Coffee Master 2000 will be based on our Patent #1234 for software controlled super-automation process of coffee machines, which uses high pressure steam and fully automatic end user programmable software settings to enable the optimal and rapid production of more than 5 types and variations of hot beverage.

The **current technical maturity is identified as TRL 3.** A **breadboard** has been built and has demonstrated the proof of concept of Patent # 1234. This further ensures our development is a low-risk approach. The aimed technical maturity to be reached by the end of this activity is TRL 5, for a **functional, fully representative prototype**.

Proposal Template
Part 1 – Technical and Application Part

1.4 ENGINEERING APPROACH

1.4.1 State of the Art

1.4.2 Technical Steps

1.4.3 Implementation aspects

NB! This is expected to be the core/bulk of the proposal

1.4 ENGINEERING APPROACH

1.4.1 State of the Art

Provide a brief overview of "State of the Art".
Explain why you chose your proposed baseline instead of others, what benefit does it have over the others?

1.4.1 State of the Art

The state of the art model commercially available today is **the Caffeine Blaster 100** (CB100) as used by Star Clucks – the market leader in this area. The Caffeine Blaster 100 can prepare **10 different types** of coffee and can prepare **2 cups simultaneously** with 1 operator.

……

The total throughput of the proposed baseline design of our proposed CM2000 design **exceeds the performance** of CB200 by up to **20%** through our patented super-automation technology and offers **25% more product variety** to the customer.

Proposal Template
Part 1 – Technical and Application Part

1.4 ENGINEERING APPROACH

1.4.2 Technical Steps

Present and discuss **in DETAIL** the scientific/technical steps to achieve the set objectives.
This needs to correspond to the **Work Flow Logic**! This is the text description and justification of the flow chart and the Work Breakdown Structure.

1.4.2 Technical Steps

Step 4: Preliminary design
WP304-WP306 cover the elements for the preliminary design of the HBM, based on the conceptual design presented here (Section 1.4.3) and updated during …// …purpose of the Preliminary Design Review shall be to review the baseline design and the breadboard demonstrator test results for completeness and for compliance with the agreed requirements. Detailed specification and prototype test plan shall be agreed at the PDR.

Step 5: Detailed design
Hardware and software design activities will run in parallel as part of the detailed design phase, encompassing all HBM sub-systems, expanding on the detail and depth provided in the preliminary design…//

Proposal Template
Part 1 – Technical and Application Part

1.4 ENGINEERING APPROACH

1.4.3 Implementation aspects

Have you answered these questions?

1. What are the **key stages/ steps** in the work/activity?
2. What is the **goal/ purpose** of each step?
3. What will be done in each step?
4. How will each step be assessed, controlled, **reviewed** or validated?
5. How does each step relate to the others?
6. If there are subcontractors: **How** is the work broken up between companies? **Why?**
7. What are the **key trade offs**? What are the key decision points?

Proposal Template
Part 1 – Technical and Application Part

1.5 TECHNICAL FEASIBILITY, PROBLEM AREAS AND DEVELOPMENT RISK

The problem areas and risks discussions are intended to cover primarily TECHNICAL (and PROGRAMMATIC where there is a key dependency/ timeliness issue), problem areas and risks that may arise DURING the work and cannot be pre-emptively resolved prior to the start of work.

Correct identification of risks and potential problems **shows you understand** the work you are proposing and can manage it properly.

Discussion of risks and problems should include a mitigation and prevention actions:

- What is the potential impact if the problem/risk arises?
- Prevention: What actions will you take to minimise the risk of it becoming a reality?
- Mitigation: What will you do if the worst case happens, how will you ensure the project can continue (can it?)?
- Provide details to show those mitigating actions are credible and feasible.
- **DO NOT** focus on manpower issue, management issues
- Do include technical issues, risks and problems
- **DO** include planning issues related to critical path items

Proposal Template
Part 1 – Technical and Application Part

1.5 TECHNICAL FEASIBILITY, PROBLEM AREAS AND DEVELOPMENT RISK

Table 2. Potential Problem and Risk Areas

Problem	Description	Impact	Mitigation	Prevention
Nanofoamer cannot produce bubbles of less than 30microns at the set power limits.	Creation of bubbles less than 30microns, might increase power consumption to excessive levels.	Low	Relax the requirement to 40microns or 50% efficiency.	Design replaceable foam inducer head for the foamer unit with an option to size up to 40micron bubbles. Early testing of the nanofoamer.

Bad Examples:
"We don't have someone who is an expert in nanofoamers and are not sure to be able to hire someone."
"The project might be late"

Common, useless one:
"A key person might leave – we would hire a new key person"

Proposal Template
Part 1 – Technical and Application Part

1.6 PROSPECT FOR EXPLOITATION AND USE

This is very strongly linked to the objectives and the requirements (in particular the user requirements).

1. Who will use the technology developed?
2. What will they use it for?
3. Why is it needed?
4. What are the competing technologies/ methods?
5. Why could this be better?
6. Is there a valid business case for continuing after this activity?
7. Does it match the programmatic constraints of the call? (BE EXPLICIT WRT COVER LETTER)

If you don't know the answers to all these and can't convince us then why should we finance the development? Think about a preparatory activity.

Proposal Template
Part 1 – Technical and Application Part

1.6 PROSPECT FOR EXPLOITATION AND USE

The prevalence of coffee shop big name chains (e.g. Star Clucks), with their custom hot beverage machines have made it difficult for independent and private companies to compete. This is largely due to **the unavailability of high end**, high efficiency, reliable and flexible **hot beverage production units** on the market. There exists therefore a clear **market opportunity** which needs to be filled.

We **have identified 5 small privately** owned coffee shops in 3 major European cities (Amsterdam, London, Paris), who have showed interest in the proposed development. Considering the customisability and easy operability of the HBM, **large companies** in Estonia (Swedbank, T&C Consulting) and **governmental organizations** (Tallinn City Council) have further expressed their interest in the development, **for supplying local and international offices**. The **letters of intent** have been included **in Annex**.

Proposal Template
Part 1 – Technical and Application Part

1.7 TECHNICAL IMPLEMENTATION / PROGRAMME OF WORK

1.7.1 Proposed Work Logic

1.7.2 Contents of the proposed work

1.7.2.1 Work Breakdown Structure (WBS)

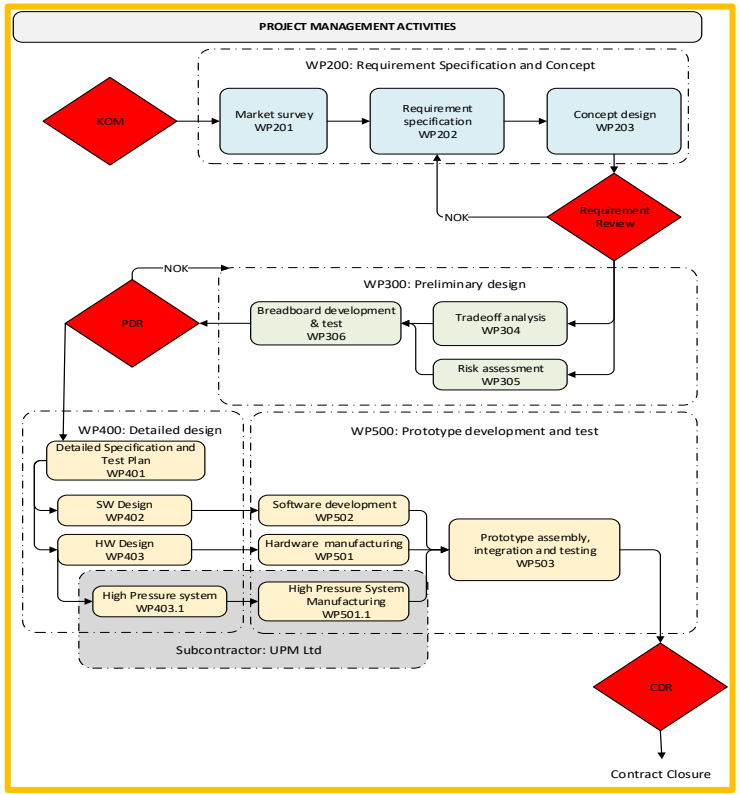
1.7.2.2 Work Package Description (WPD)

Proposal Template
Part 1 – Technical and Application Part

1.7 TECHNICAL IMPLEMENTATION / PROGRAMME OF WORK

1.7.1 Proposed Work Logic

- Include the **reviews** and decision points
- Consistency with WBS (and easy traceability)
- Parallel/serial consistency is logical (consistent with GANTT chart)
- **Sub-contractor work** is clear
- Dependencies clear



Proposal Template
Part 1 – Technical and Application Part

1.7.2 Contents of the proposed work

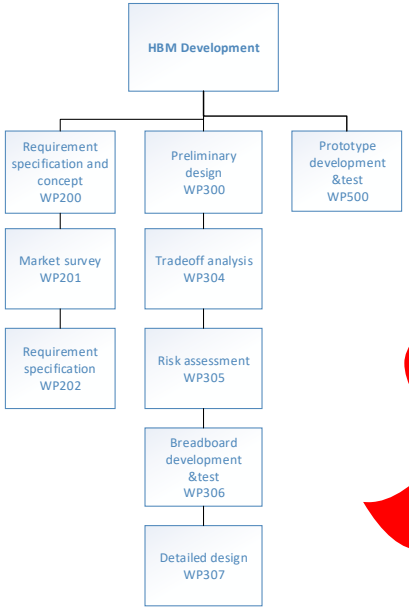
1.7.2.1 Work Breakdown Structure (WBS)

- Logically structure the main Work Packages following the main tasks of the work flow (preferably 'gated' by reviews)
- Include **WP for management**
- Ensure **each company** has separate **(sub)work packages**
- Ensure all tasks in one work package 'belong together'

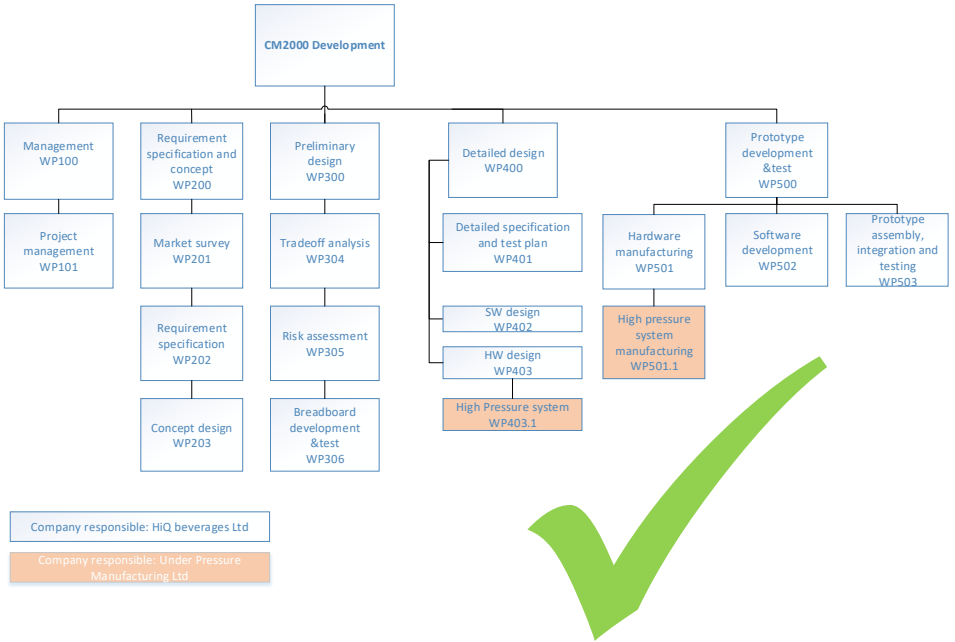
Proposal Template
Part 1 – Technical and Application Part

1.7.2 Contents of the proposed work

1.7.2.1 Work Breakdown Structure (WBS)



- No Management
- No split by company
- Not organised by core Task/Phase (WP307 is major WP not sub-WP)
- Insufficient detail in WP500 for Planning



Proposal Template
Part 1 – Technical and Application Part

1.7.2 Contents of the proposed work

1.7.2.2 Work Package Description (WPD)

- The WPDs form the **detailed description** of the work that will be performed
- They **scope the work** and the deliverables
- They allow a **basis for the costing**
- They **discriminate the work** and responsibilities of the different companies/ entities

Note that the ECSS propose a standard template for a WBS and WPD (for the WPD the ESA PSS A20 form can be used)

Proposal Template
Part 1 – Technical and Application Part

1. Essential Data:
    a. Work Package (WP) Title, WP Manager, Company
    b. Start and end dates (T0+) and/or EVENT (PDR, CDR)
    c. Inputs
    d. Description of work (e.g.: tasks and sub-task)
    e. Outputs (each WP will result in a number of technical documents, for example output of WP1 (task 1.1 and task 1.2), there will be TN1.1 and TN1.2
2. TIPS:
    a. WP Manager should be responsible for the work (e.g. have suitable experience)
    b. Duration (Start: T0 + 1, End: T0 +5).
    c. Describe work (bullets) at sufficient detail to understand level of analysis performed, work flow within the WP, reviews to be held etc. Avoid generic ambiguous high level descriptions (e.g. 'Perform design')
    d. Outputs are all deliverables produced, ensure consistency with Deliverables list and deliverable identifiers.

Proposal Template
Part 1 – Technical and Application Part

PROJECT: CM2000 Development	PHASE: 1	WP: 201
WP Title: Market Survey Company: HiQ Beverages Ltd WP Manager: Mr. Bean Start Event: KOM End Event: RR	Planned Date: T0 Planned Date: T0+3	Sheet 1 of 1 Issue Ref: 1 Issue Date 15.08.2018

Inputs:
- SoW
- Approved proposal
- KOM Minutes of Meeting
- AD1
- RD1

Tasks:
- Perform a survey of all current HBMs available on market
- Compare key requirements and capabilities
- Compare key performance indicators (efficiency, lifetime, reliability)
- Compare and analyse cost (unit cost, running cost)
- Identify and analyse customer requirements (coffee provider)
- Assess the current annual demand for hot beverages in Europe
- Perform trend analysis for hot beverage demand in Europe
- Identify most popular hot beverages and key end-user requirements
- Collect and analyse new and emerging requirements for popular hot beverages
- Assess the potential future market for any evolving requirements
- Identify consumer needs not currently addressed by HBM

Specifically Excluded Tasks:
- No competitor machines will be procured and tested
- No taste testing/ surveying will be performed

Outputs:
D01: Current and Future Market Assessment Report
D02: Emerging Hot Beverage Requirement Report

PROJECT: CM2000 Development	PHASE: 1	WP: 200
WP Title: Requirement Specification and Concept WP Manager: Mr. Bean Start Event: KOM End Event: End of project	Planned Date: 1st April 2018 Planned Date: 1st April 2019	Sheet 1 of 1

Tasks:
- Do market survey
- Write Requirement Specification

Outputs:
Technical Note

Note: The outputs to the Work Package Descriptions shall be included in the List of Deliverables!

- Too high level
- Too open to interpretation
- Scope undefined
- Deliverable undefined
- Company missing
- No inputs
- Actual dates used
- Not linked to planning (events)

Proposal Template
Part 1 – Technical and Application Part

1.8 BACKGROUND OF THE COMPANY(IES)

We are only interested in RELEVANT background and experience.

Coffee Example:

1. Directly **relevant** experience for a Coffee maker: Having made coffee before for themselves or having made multiple types of coffee in a café
2. Partially relevant experience for a Coffee maker: Having made other (non-coffee) hot beverages, having worked in a café where coffee was made, but not actually making the coffee.
3. Non-relevant experience for a Coffee maker: Cleaning the café, playing football, driving a car

Do not waste space in the proposal with non-relevant experience.
Relevant patents, papers or publications could be included in Annex(es)

If the people or bidding team is missing key background, experience or knowledge – **identify this yourself and explain how you will get it**.

Proposal Template
Part 1 – Technical and Application Part

- Overview of company: (size, age, years of experience and general heritage)
- Key relevant **technical knowledge** mentioned
- Key relevant **customers** mentioned
- **Key facilities** (relevant to this project) mentioned (or reference to Annex)

Prime contractor: HiQ Beverages Ltd

HiQ Beverages is one of the leading process innovators ion Eastern Europe in beverage production software and machinery. Founded in 1990, the company has more than 20 years of experience in specialized beverage production systems and over 10 years of experience in automation software.

We specialize in full automation software for liquid mixing and dispension, for which we hold multiple patents (Patent #1234, Patent#5566).
We are dedicated to research, development and manufacturing of small to medium scale beverage handling and production units to customers worldwide. Our products are in accordance with international quality standards and we have ISO-9001 certification since 2007.

HiQ Beverages Ltd customers include market leading soft drink producers (Not-A-Cola Company, Sipsy Co).

HiQ Beverages Ltd operates on Unix-based OS with internal servers and has the full software licenses (RoboQ, EXent 5.0, SinTouch) required for the foreseen work.
HiQ Beverages has a full mechanical workshop, in-house pressure test chamber and a lifetest facility. See Annex for details.

1.9 FACILITIES

Facilities are the things needed **in order to complete the work proposed**. You need to identify ***what you need*** for the proposed work and ***whether you have it***, or ***how you gain access*** to it.

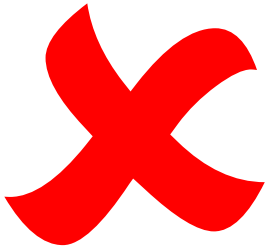
1. Example Facilities
    1. Test equipment
    2. Specialist design and analysis software
    3. Specialist computing facilities
    4. Specialist manufacturing facilities

2. Examples of things **NOT** considered Facilities:
    1. Your building and address
    2. Your car park
    3. Your desks and office furniture
    4. Standard computers, office s/w and printers

Proposal Template
Part 1 – Technical and Application Part

1.9 FACILITIES

HiQ Beverages Ltd. has a 20-people office, and a shop with chairs and tables, we have toilets for customers, a cash desk, brush and several mops. We will need to buy more coffee cups and get some software.

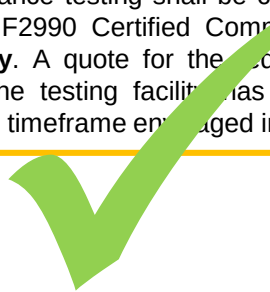


1.9 FACILITIES

All the required facilities for the proposed work are **available** to the prime and subcontractor.

HiQ Beverages Ltd operates on Unix-based OS with internal **servers** and has the full **software licenses** (RoboQ, EXent 5.0, SinTouch) required for the foreseen work.
HiQ Beverages has a full **mechanical workshop**, in-house **pressure test chamber** and a **lifetest facility**.

Critical performance testing shall be carried out in Brewzone, Italy at ASTM F2990 Certified Commercial Coffee Brewers **Testing Facility**. A quote for the required testing has been received and the testing facility has been confirmed to be available for the timeframe engaged in the proposal.



Proposal Template Part 2

Management Part

Proposal Template: Part 2 – Management Part

2.1 TEAM ORGANISATION AND PERSONNEL

2.1.1 Proposed team

2.1.1.1 Overall team composition, key personnel

Provide an organigram that describes the overall team composition, including participants from all **Sub-contractors**, if any, and including all **key** (i.e. having a major role within the team and/or being responsible for one or more WPs) personnel.

2.1.1.1 Overall team composition, key personnel

The team consists of 10 people, 4 of which are considered key due to their expertise significant contribution to the key project tasks.

The project manager is Mr. Bean from HiQ Beverages Ltd. Mr. Bean will be the main contact point with ESA as well as the subcontractor and supplier, and will oversee all management tasks and contractual aspects of the project, including sub-contractor management, scheduling, project control and risk management.

Software lead engineer D.U. Code is responsible for developing the main software architecture and proposed modifications to Patent#1234, as well as integration with hardware and co-verification.

Proposal Template: Part 2 – Management Part

NB! Key Personnel

A Key Personnel is someone playing a **leading role** in the activity OR providing **irreplaceable** experience and expertise.

1. Anyone contributing **<<10%** of their time is being used very inefficiently and is by definition not playing a leading role (unless due to unique expertise).

2. If someone is claimed to be a key personnel because they have irreplaceable experience and expertise – **explain the role** they play, what this is and how it will be exploited.

3. High numbers of claimed key Personnel does not make the proposal any better. Demonstrated good and **effective use of people** with the right background and with clear roles is better.

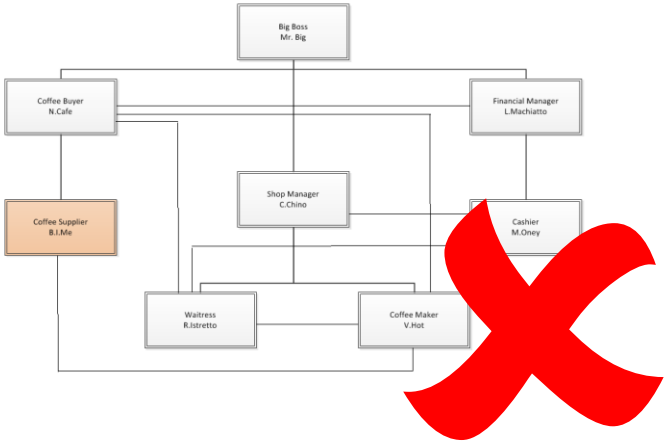
4. The percentage of the working time that each key personnel will dedicate to each Work-package (WP) shall be given. **For the management task, if the consortium is not large, the percentage should not be higher than ~10%.**

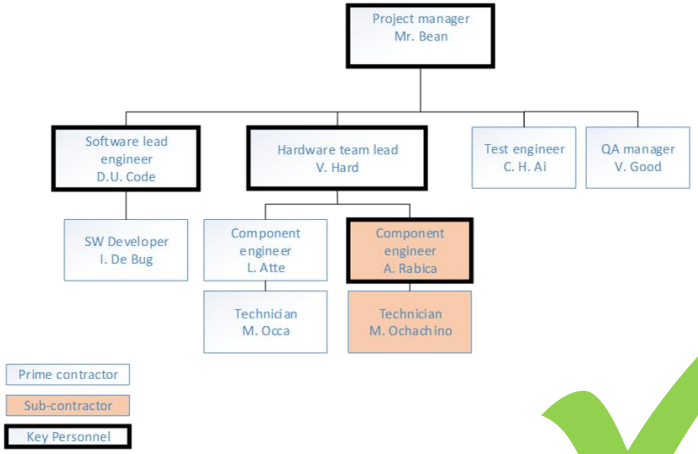
Proposal Template: Part 2 – Management Part

2.1.1.1 Overall team composition, key personnel

Provide an organigramme for the Project Team (including sub-contractor(s), if any), this is intended to show the reporting lines and responsibility/delegation. It does not show who talks to whom on a daily basis.

- Each sub-contractor should have 1 formal contact point
- NO steering committees in ESA contracts – Project Manager (in discussion with ESA) is responsible for the direction, quality of work, decisions and timeliness.





Proposal Template: Part 2 – Management Part

2.1.1.2 Rationale of the proposed industrial organisation

- Rationale of the team composition
- Rationale of the split of work between Prime and subcontractor(s) (if any)
- Justification for the choice of subcontractor(s) (if any)

Proposal Template: Part 2 – Management Part

2.1.1.3 Position and responsibilities of the Key Personnel within his/her own company's (or institute's) and within the proposed team

Key Personnel	Company	Position within his/her company	Position within the proposed team	List of responsibilities
Mr. Bean	HiQ Beverages Ltd	Project manager	Project Manager	Project manager. Main contact point with ESA. Subcontractor management, project scheduling, project control, risk management.
D.U. Code	HiQ Beverages Ltd	Software developer	SW lead engineer	Developing main software architecture and propose modification to Patent#1234. Also responsible for integration with hardware.
V. Hard	HiQ Beverages Ltd	Engineer	HW team lead	Oversees design, manufacturing and assembly of full unit.
A. Rabica	Under Pressure Manufacturing Ltd	Engineer	Component engineer	Responsible for the design, manufacturing, testing and integration of the high pressure system. A. Rabica also represents the subcontractor.

Proposal Template: Part 2 – Management Part

2.1.1.4
Time dedication of the key personnel

For each **key personnel** identified in 2.1.1.1 above, provide a time percentage dedication per year

- **Percentage working time** is reasonable for their activities?
- Note the 13% would likely be picked up and questioned by the TEB
- **Total number of hours** is for the key persons. It is not expected to be the same as the total hours for the project but difference must be explained in the proposal.
- If project manager hours don't match the project management role, it needs to be explained

Key Personnel	Total hours dedicated to the project	Total working hours during project timeframe	% of total working hours dedicated to the project
Mr. Bean	530	1600	33
D.U. Code	760	1800	42
V. Hard	660	1800	37
A. Rabica	240	1800	13
TOTAL	2190		

Proposal Template: Part 2 – Management Part

2.2 CURRICULA VITAE

One summary resume per **key person,** include:

- Role
- Relevant experience
- Very summarised version of other experience

Full CV can be included in an Annex.

Dean Umberto Code (Software lead engineer)

Relevant experience:

2014- ...: Software Developer, HiQ Beverages, Estonia

- Software quality monitoring in C++ and SQL in Unix and Linux environments
- Develop automation scripts to test storage appliances in Python and C/C++
- Development of base framework with Java, JSP, Struts, CSS, HTML, JavaScript, Oracle, and MS SQL Server

2008 – 2014: Automation Engineer, Smartest Vacuum Cleaners GmbH, Germany

- Design, development and testing of microcontroller-based embedded systems in Raspberry Pi Platforms using automata-based programming for building smart home appliances.
- Design of protocol stacks for SoC HW/SW Interfaces

2007-2008; Junior Software Developer, Robocop Technologies OÜ, Estonia

- Basic function design in LISP and HDL
- Schematic capture and PCB layout software Design with sensors, encoders, SPI, I2C, CAN and EtherCAT devices

Education:

2005-2007: MSc Technical University Of Matrix, Automation Engineering

2001-2005: BSc Technical University Of Matrix, Computer Science & Mechatronics

Proposal Template: Part 2 – Management Part

2.3 MANAGEMENT OF SUBCONTRACTOR(S)

In case of Subcontractor(s), present management plan and procedures to exercise monitoring and control over the subcontractor(s).

Proposal Template: Part 2 – Management Part

2.4 PLANNING

2.4.1. Gantt chart

2.4.2 Proposed Schedule

2.4.3 Meeting and Travel Plan

Proposal Template: Part 2 – Management Part

2.4.1. Gantt chart

The GANTT chart shows you can organise your work, provides a tool to monitor the work, to communicate key dates and to ***show what drives the schedule***.

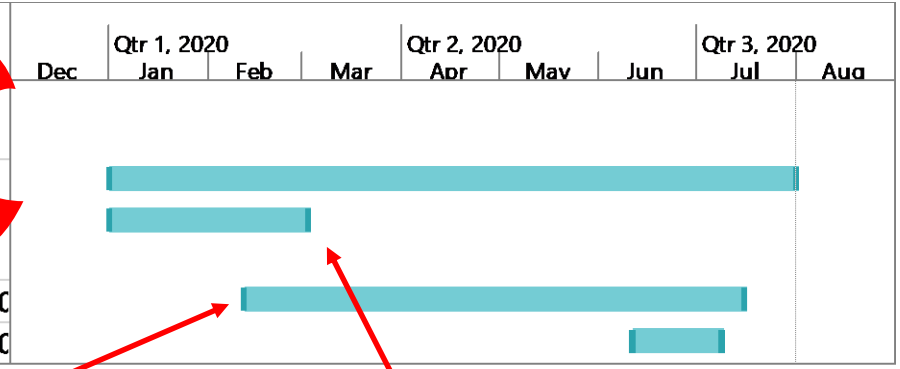
It shows you understand the work involved in what you are proposing.

Some tips for GANTT charts:

1. It should link clearly to WBS and Flow Chart
2. It should show milestones, reviews and **key** deliverables
3. It should show the **key** dependencies between tasks
4. Include to a 'sensible' level (not too much, not too little) – ask can you monitor progress?
5. Is there a critical path? Is it shown and discussed?

Proposal Template: Part 2 – Management Part

ID	Task Name	Duration	Start	Finish
1	CM2000 Development			
2	Management	153 days	Wed 01/01/20	/20
3	Requirement Specification	44 days	Wed 01/0	n 02/03/20
4	Design Work	111 days	Wed 12/02/20	Wed 15/07/20
5	Testing	20 days	Thu 11/06/20	Wed 08/07/20



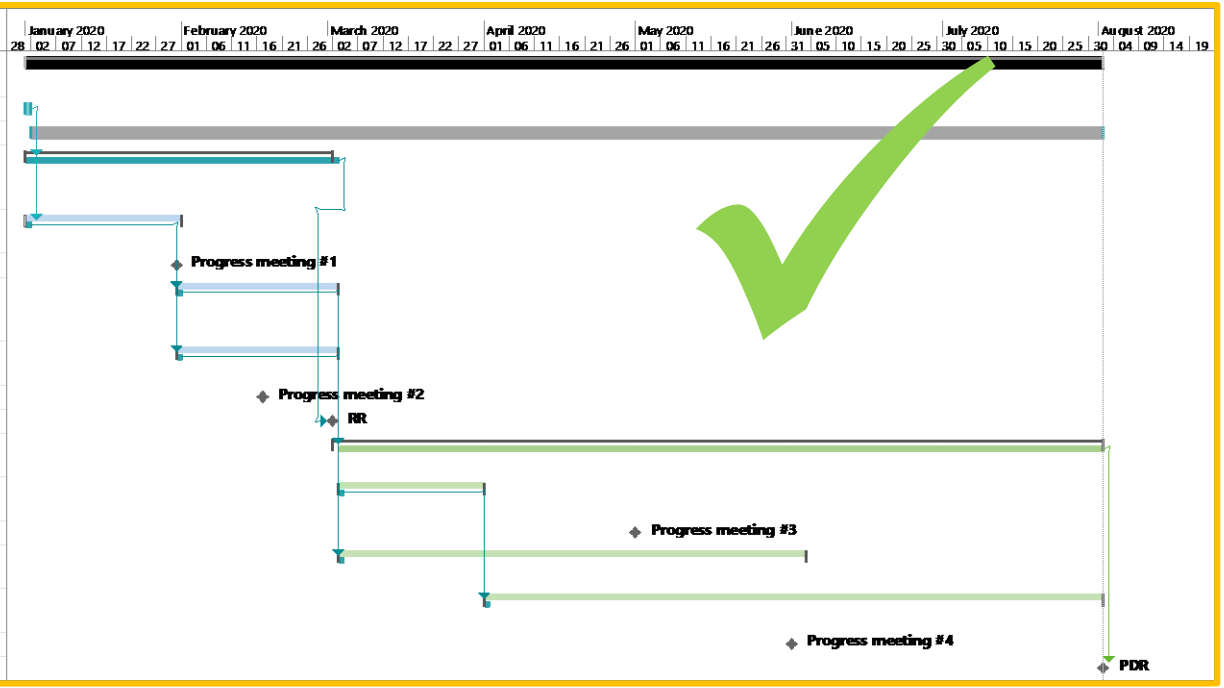
Names not matching WBS titles

Insufficient granularity (not matching WBS)

No dependencies or critical path shown
No discrimination between entities
No meetings/ key points

Proposal Template: Part 2 – Management Part

ID	Task Name	Duration	Start	Finish
0	CM2000 Development Phase	153 days	Wed 01/01/20	Sat 01/08/20
1	Kick-Off	1 day	Wed 01/01/20	Wed 01/01/20
2	WP100 Management	153 days	Thu 02/01/20	Sat 01/08/20
3	WP200 Requirement specification and concept	44 days	Wed 01/01/20	Sun 01/03/20
4	WP201 Market survey	23 days	Wed 01/01/20	Fri 31/01/20
6	*Progress meeting #*	0 days	Fri 31/01/20	Fri 31/01/20
7	WP202 Requirement Specification	22 days	Fri 31/01/20	Mon 02/03/20
9	WP203 Concept design	22 days	Fri 31/01/20	Mon 02/03/20
11	*Progress meeting #2*	0 days	Mon 17/02/20	Mon 17/02/20
12	RR	0 days	Mon 02/03/20	Mon 02/03/20
13	WP300 Preliminary Design	111 days	Mon 02/03/20	Sat 01/08/20
14	WP304 Tradeoff Analysis	21 days	Tue 03/03/20	Tue 31/03/20
16	*Progress meeting #*	0 days	Fri 01/05/20	Fri 01/05/20
17	WP305 Risk Assessment	67 days	Tue 03/03/20	Wed 03/06/20
19	WP306 BB Development&Tes	89 days	Wed 01/04/20	Sat 01/08/20
21	*Progress meeting #*	0 days	Mon 01/06/20	Mon 01/06/20
22	PDR	0 days	Sat 01/08/20	Sat 01/08/20



Proposal Template: Part 2 – Management Part

2.4.2 Proposed Schedule

Provide a synthetic **summary** of the schedule including duration, planning assumptions (e.g. envisaged **start date, holidays** etc.) and identifying and explaining **key planning drivers** and dependencies.

2.4.3 Meeting and Travel Plan

Should be **consistent** with the cost given in **PSS A2, Exhibit B** and shall include not only meetings with the Agency but also meetings with sub-contractors involving travel, **field trips**, travels to test houses.

- All meetings with ESA (e.g. progress meetings – note these may be via telecon)
- All reviews, both internal and with ESA (e.g. Requirements Reviews, Design Review, Test Readiness...)
- All meetings with sub-contractors or potential customers (e.g. progress meetings, working meetings, requirement definition meetings)
- All travels to facilities (e.g. Test houses, Ground truth measurement areas)

Final Presentation (at ESA premises)

NOT to include:

- Any meeting or travel not DIRECTLY needed for progression of the activity (e.g. conferences, promotional activities…)
- Ad-hoc meetings to resolve problems (e.g. supply problems)

Proposal Template: Part 2 – Management Part

- Includes all reviews
- Includes all meetings with Sub-contractors
- Includes all tests where travel is needed
- Includes all meetings with ESA (irrespective of travel need)

Meeting	WP or Milestone	Purpose	Attendees	Date	Location
KoM	MS1	Kick-Off Meeting	ESA, HiQ	T0	Teleconference
Progress meeting #1	MS1	Results and conclusions of market survey	HiQ	T0 + 4w	HiQ, Estonia
Progress meeting #2	MS1	Progress assessment of requirement specification and concept design	HiQ	T0 + 6w	HiQ, Estonia
RR	MS1	Requirements Review	ESA, HiQ	T0 + 2mo	HiQ, Estonia
Progress meeting #3	MS2	Review of trade-off analysis, consolidation for breaboard development and test plan	HiQ	T0 + 4mo	HiQ, Estonia
Progress meeting #4	MS2	Breadboard development progress	HiQ	T0 + 5mo	HiQ, Estonia
PDR	MS2	Preliminary Design Review	ESA, HiQ	T0 + 7mo	HiQ, Estonia
Co-engineering meetings (8)	MS2	HW and SW consolidation for detailed design	HiQ, UPM	T0 + 7mo (4weeks)	HiQ, Estonia; telecoference
Progress meeting #5	MS3	Progress of design activities	HiQ, UPM	T0 + 9mo	UPM, Latvia
Internal review #3	MS3	Detailed design review and prototype devepment planning	HiQ, UPM	T0 + 13mo	HiQ, Estonia
Progress meeting #7	MS3	Prototype development and test progress	HiQ, UPM	T0 + 15mo	Teleconference
Critical performance testing	MS3	Test at ASTM F2990 Certified Commercial Coffee Brewers Testing Facility	HiQ, UPM	T0 + 16mo	Brewzone, Italy
Internal review #4	MS3	Prototype development and test results review	HiQ, UPM	T0 + 18mo	Teleconference
CDR	MS3	Critical Design Review	ESA, HiQ, UMP	T0 + 18mo	HiQ, Estonia
Final Review	MS3	Final Presentation of Project Outcome	ESA, HiQ	T0 + 18mo	ESTEC, ESA, Netherlands

Proposal Template: Part 2 – Management Part

2.5 DELIVERABLE ITEMS

The List of Deliverable Items shall be grouped in **Documentation, Hardware and Software** and shall include sufficient **explanation** to unambiguously represent the **scope** of the deliverable.

2.5.1 Documentation

Doc ID	Title	Milestone	Description of document
D1a	Requirements Specification	MS1	The Requirements Specification shall contain the ful set of high level technical requirements to be met by the HBM. Each requirement shall be numbered and shall include the validation method and a justification/ reasoning for the requirement
D1b	Current and Future Market Assessment Report	MS1	Assessment of Current competitor. Assessment of competitor specifications and prices. Assessment o evolution of HBM machines.
D1c	Emerging Hot Beverage Requirement Report	MS1	Assessment of beverage types currently on offer, assessment of sales per type and evolution of these year by year from 2000 to 2017.

Ensure there is a description of each deliverable to avoid later discussion!

Ensure consistency with WPDs!

2.5.2 Other Deliverables (Hardware, Software, Models, Data, etc.)

Proposal Template: Part 2 – Management Part

ECSS European Cooperation for Space Standardization

ESA implements the European Cooperation for Space Standardization (ECSS) in it's programs. This implementation is **not required** for RPA projects, but it is **recommended** to implement them at least partially to better understand the way ESA programs work and the terminology used and resulting requirements.

ECSS documentation is available for free download from www.ECSS.nl. Registration on the website is free.

The key document to start with for project management is:

- **ECSS-M-ST-10C Project Planning and Implementation (Chapter 4,5 and Annex A)**

Proposal Template Part 3

Financial Part

Proposal Template: Part 3 – Financial Part

3.1 PRICE QUOTATION FOR THE CONTEMPLATED CONTRACT:

[Enter here the total amount quoted as a Firm Fixed Price (FFP), in Euro without cents, delivery duty paid, exclusive of import duties and value added taxes in ESA Member States, etc., in pursuance of the pricing conditions fixed in the "Draft Contract" included in the ITT]

Remarks concerning certain price elements:

a) Charging of royalties and licence fees:
ESA will only accept to pay royalties or licence fees on the condition that they are:
- clearly identified in the tender, with the financial basis for their calculation, method of application and total amount, and
- demonstrated to be of direct and necessary benefit to the work to be performed (thus not merely the consequence of a general agreement or commitment to a Third Party), and
- applied only to that part of the effort to be performed by a Contractor or Sub-contractor that is directly related to the subject matter of the licence or royalty agreement.

Proposal Template: Part 3 – Financial Part

(cont.)
3.1 PRICE QUOTATION FOR THE CONTEMPLATED CONTRACT:

Remarks concerning certain price elements:

b) Quotations free of taxes and custom duties:
Prices shall be quoted free of any value added taxes (VAT) and import duties in the Agency's Member States. Please note that subcontractor are not VAT exempt. In this connection you shall pay attention to the provisions stated in Article 3 of the Draft Contract (Appendix 1 to the ITT). In case you consider that you and/or your Sub-contractor(s) will remain subject to payment of taxes or custom duties, you shall indicate separately the applicable rates, the corresponding estimated amounts, and the reason why exemption from such taxes or duties cannot be obtained.

c) Currency and conversion rate:
For any Tenderer or proposed Sub-contractor located in countries outside of the Euro zone, the exchange rate used to quote their prices in Euro shall be indicated by the company (or institute) in its costing form PSS-A2. Any other factors (such as hedging costs, forward buying rates) used for the purpose of the calculations shall also be indicated]

Proposal Template: Part 3 – Financial Part

Hints and tips: Price Quotation

1. The price of the Contract will be a **Firm Fixed Price without VAT**.

The EU provides International Organisations the privilege to be exempted from VAT for intra-community transactions. ESA, as an International Organisation, is classified as non-taxable. ESA applies this privilege by issuing a VAT EXEMPTION CERTIFICATE for its contract. ESA does therefore not have a EU VAT-ID number

=> The VAT Exemption certificate will be provided with the original contract.

- **The Prime Contractor is the only one receiving the VAT EXEMPTION CERTIFICATE** as it is the supplier in direct contractual relationship with ESA. It is the Prime Contractor to invoice ESA directly.

- Sub-contractors will not receive the VAT EXCEMPTION CERTIFICATE as they do not stand in a direct contractual relationship with ESA; they are paid by the Prime.

Proposal Template: Part 3 – Financial Part

2. **The price of the proposed activity must be transparent, clear and credible.**

- ✓ **TRANSPARENT:** Where does the money go? (e.g: the cost structure, hardware etc.)
- ✓ **CLEAR:** Level of details is important => PSS forms
- ✓ **CREDIBLE:** Are the cost credible to achieve the objectives of the proposed activity ?

- ❑ After the contract is signed by both party, ESA does not require financial reporting on the evolution of the spending.
- ❑ All financial details are set in the proposal & at negotiation. The proposal and the minutes of meeting will be part of "the rules of the game" together with the Contract for the all duration of the contract.
- ❑ The financial envelopes given per category in the ITT are **CEILING limits** – they are **NOT** goals. Price must be fair and reasonable for the scope of work described in the proposal.

Proposal Template: Part 3 – Financial Part

3.2 DETAILED PRICE BREAKDOWN

3.2.1 **Procedures Specifications and Standards (PSS)** costing forms:

[On the basis of the corresponding instructions to each form, complete and insert in Annex to your Proposal the costing form(s) requested below):

- **PSS A1** Company Cost Rates and Overheads
- **PSS A2** Company Price Breakdown Form
- **PSS A2** Exhibit A – Other Cost Element Details (if applicable)
- **PSS A2** Exhibit B – Travel and subsistence plan
- **PSS A8** Manpower & Price Summary per WP
- **PSS A15.1** Company Price Projection vs Payment Plan

Note that the PSS form templates can be downloaded from EMITS at http://emits.sso.esa.int/emits/owa/emits.main under Reference Documentation / Administrative Documents / PSS Forms / Issue 5. Each of the PSS forms must be signed.

The profit shall not exceed eight percent (8%) of the base cost defined in item no. 9 of PSS A2 form, issue 5 ("Company Price Breakdown Form").

In case of participation of Sub-contractor(s) in the contemplated Contract, each Sub-contractor shall fill in the same forms with respect to its share of the activity and the Tenderer shall fill in forms corresponding to its own share and to the total.

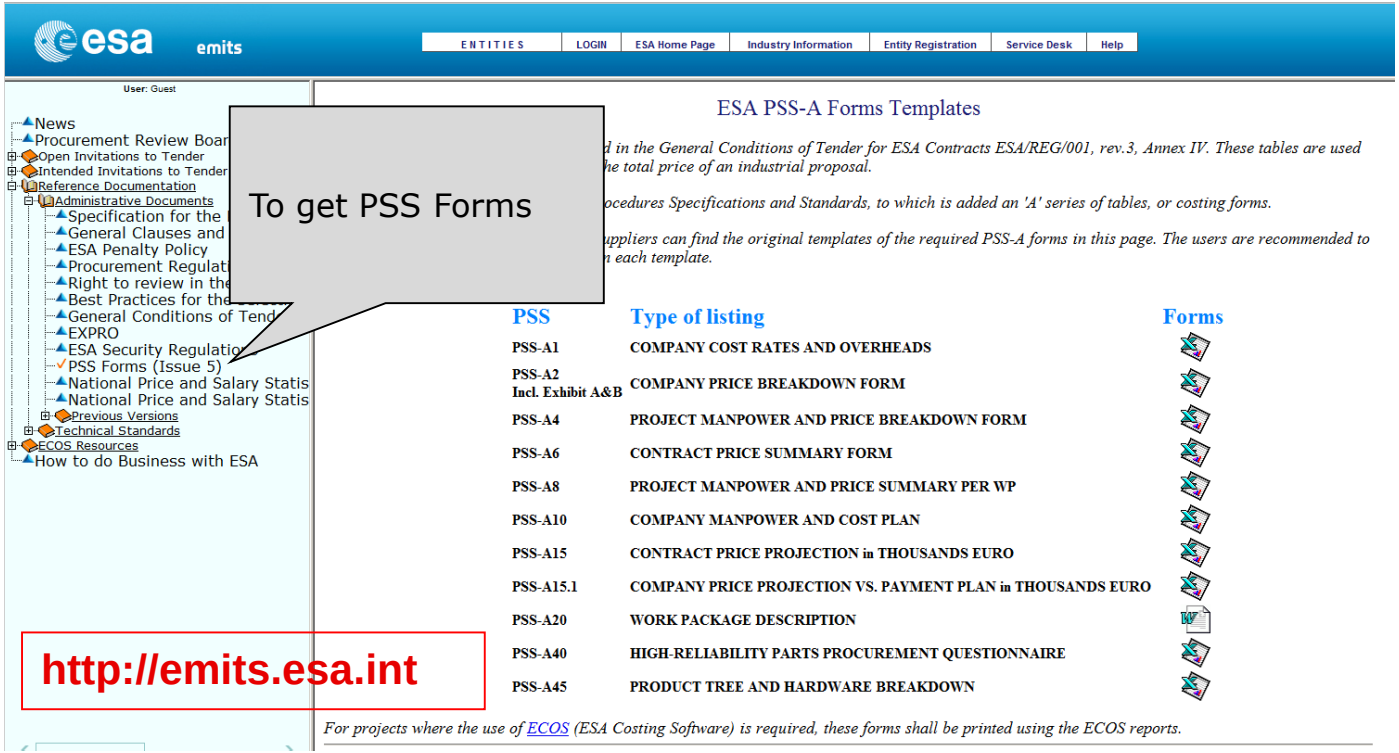
Any PSS forms including those concerning your Sub-contractor(s) are to be signed by the authorised representative of the company (or institute) concerned]

Proposal Template
Part 3 – Financial Part: PSS costing forms

Procedures Specifications and Standards (PSS)

- PSS A1 Company Cost Rates and Overheads
- PSS A2 Company Price Breakdown Form
- PSS A2 Exhibit A – Other Cost Element Details (if applicable)
- PSS A2 Exhibit B – Travel and subsistence plan
- PSS A8 Manpower & Price Summary per WP
- PSS A15.1 Company Price Projection vs Payment Plan

Proposal Template
Part 3 – Financial Part: PSS costing forms



Proposal Template
Part 3 – Financial Part: PSS costing forms

Why do we use PSS Forms ?

- Fairness: PSSs are standard tools used for all ESA activities/ITT. All costs are presented the same way to allow systematic evaluation.
- Clarity: PSSs allow to review clearly where the money is allocated.
- Evaluation tool: e.g number of hours spent per key personnel per Work Package, cost per category, hardware cost…

Check carefully the Instruction Page

BE AWARE: We evaluate into details the cost. We will challenge the number of hours and the cost allocation to verify that the cost are true and credible.

Proposal Template
Part 3 – Financial Part: PSS costing forms

PSS A1

- ✓ Present the labour Cost per Category (Project Manager, Mechanical Engineer, Senior scientist, PhD, Engineer …)
- ✓ No Names
- ✓ ONE hourly rate for ONE labour cost category
- ✓ Fill in the Internal Facilities' part only if cost will be allocated to it.

Proposal Template
Part 3 – Financial Part: PSS costing forms

PSSA2

- ✓ Full vision of the cost allocated to the activity
- ✓ If applicable, do not forget to include profit and cost of subcontractors
- ✓ **Exhibit A** : Details the cost allocated to hardware, services and miscellaneous
  - TIPS: Cost must be detailed and verifiable against current market price
- ✓ **Exhibit B**: Details the **travel costs**
  - No conference unless strictly linked to the need of the activity. We promote teleconference whenever possible. Not everyone need to come to the Final Presentation.
- ✓ The instruction provides all the definitions related to OTHER DIRECT COST ELEMENTS.

Proposal Template
Part 3 – Financial Part: PSS costing forms

PSS A2

Total # hours
Total # FTE

- Are these reasonable for the duration and scope of work?
- Do they match the # and time allocation of key people?

Have facilities been described in proposal?

COMPANY PRICE BREAKDOWN FORM				Form No. PSS A2	Page no. 1 of 1	Issue 5
RFQ/ITT No.:	18.187.04			COMPANY		
Proposal/Tender No.:	1			Name:	HiQ Beverages Ltd	
Type of Price:	FFP	Firm Fixed Price		Country:	Estonia	
Economic Condition:	2018					
National Currency (NC):	EUR			Representative		
Exchange Rate (X):	1 EURO =	1.00000	EUR	Name and Title:	Mr. Bean	
Contractual Phase:	N/A			Signature:		
Project/Work Package(s):						

							TOTAL (NC) EUR	TOTAL (EURO) NC / X
	LABOUR							
	Direct Labour cost centres or categories Code / Description	No. of FTE (calculated) U = W / V	Sold Hours per ManYear V	Manpower Effort No. of Hours W	Gross Hourly Rate in NC			
	Project Manager	0.2	1,600	300	39.24		11,772.00	11,772.00
	Senior Engineer	0.9	1,800	1,550	57.84		89,652.00	89,652.00
	Junior Engineer	0.3	1,800	550	36.72		20,196.00	20,196.00
	Technician	0.2	1,800	400	28.44		11,376.00	11,376.00
	QA Manager	0.0	1,800	80	48.72		3,897.60	3,897.60
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
1	Total Direct Labour Hours and Cost	1.6		2880.0		A	136,893.60	136,893.60
	INTERNAL SPECIAL FACILITIES							
Code	Description		Type of unit	No. of units	Unit rates in NC			
	Pressure testing Chamber		Day	1	1,000		1,000.00	1,000.00
							0.00	0.00
							0.00	0.00
							0.00	0.00
							0.00	0.00

Proposal Template
Part 3 – Financial Part: PSS costing forms

2	*Total Internal Special Facilities Cost*					B	*1,000.00*	*1,000.00*
	OTHER DIRECT COST ELEMENTS	*Base amounts in NC*	*+ OH %*	*OH amounts in NC*				
3.1	Raw materials	1,455	5.0%	73			1,527.75	1,527.75
3.2	Mechanical parts	1,973	5.0%	99			2,071.65	2,071.65
3.3	Semi-finished products						0.00	0.00
3.4	Electrical & electronic components	733	10.0%	73			806.30	806.30
3.5	HIREL parts							
	a) procured by company						0.00	0.00
	b) procured by third party						0.00	0.00
3.6	External Major Products						0.00	0.00
3.7	External Services	3,000	15.0%	450			3,450.00	3,450.00
3.8	Transport and Insurances						0.00	0.00
3.9	Travel and Subsistence	3,180	10.0%	318			3,498.00	3,498.00
3.10	Miscellaneous	600	5.0%	30			630.00	630.00
3	*Total Other Direct Cost*	*10,941.00*		*1,042.70*		C	*11,983.70*	*11,983.70*
4	**SUB-TOTAL DIRECT COST**				(A+B+C)	D	**149,877.30**	**149,877.30**
	GENERAL EXPENSES	*Cost items to which % applies*		*Base Amount in NC*	*OH %*			
5	General & Administration Expenses	1		*136,893.60*	3.75%	E	5,133.51	5,133.51
6	Research & Development Expenses					F	0.00	0.00
7	Other					G	0.00	0.00
8	**TOTAL COMPANY COST**				D+(E+F+G)	H	**155,010.81**	**155,010.81**
		Cost items to which % applies		*Base Amount in NC*	*%*			
9	PROFIT	1		155,010.8	8.0%	I	**12,400.86**	**12,400.86**
10	COST WITHOUT ADDITIONAL CHARGE					J		0.00
11	FINANCIAL PROVISION FOR ESCALATION					K		0.00
12	**TOTAL COMPANY PRICE**				(H+I+J+K)	L	**167,411.67**	**167,411.67**
13	TOTAL SUB-CONTRACTOR PRICE					M		23,969.90
14	REDUCTION for COMPANY CONTRIBUTION					N		0.00
15	**TOTAL PRICE FOR ESA**				(L+M-N)		**167,411.67**	**191,381.57**

PSS A2

Other direct cost elements - % of overall cost reasonable? (details reviewed in Exhibits)

Profit <= 8%?

Co-funding (Type F)

Total – less than max ceiling?

Proposal Template
Part 3 – Financial Part: PSS costing forms

PSS A2 Exhibit A

COMPANY PRICE BREAKDOWN FORM		EXHIBIT "A" TO PSS A2			Issue 5	
		Page No. 1		No. of Pages 1		
RFQ/ITT No.:	18.187.04	COMPANY NAME:	**HiQ Beverages Ltd**			
Proposal/Tender No.:	1	Name and Title:	**Mr. Bean**			
National Currency:	EUR					
Contractual Phase	N/A	Signature				
Applicable to PSS-A2 elements: 3.1-3.4 - 3.6 - 3.7 - 3.10 - 10						
Project / Work Pac CM2000 Development; WP300, WP400, WP500						

Cost El. No.	ITEM DESCRIPTION	Type of Price	Purchase Currency	Purchase Amount	Exchange rate 1 NC =	Amount in NC
3.1	Raw Materials: Copper, Stainless Steel for component manufacturing	FFP	EUR	1,455.00	1.00000	1,455.00
3.2	Mechanical Parts: Soldering support equipment, mechanical seals, slides, hinges, toggle clamps	FFP	EUR	1,973.00	1.00000	1,973.00
3.4	Electrical & electronic components: resistors, capacitors, LEDs, transistors, etc	FFP	EUR	733.00	1.00000	733.00
3.7	External Test Facility: ASTM f2990 Certified Commercial Coffee Brewers Testing Facility at Brewzone, Italy	FFP	EUR	3,000.00	1.00000	3,000.00
3.9	Travel and Subsistence: Meeting with Subco, testing travel to Italy (see Exb. B)	FFP	FFP	3,180.00	1.00000	3,180.00
3.10	Miscellaneous: raw food material for testing (coffee, cocoa beans, tea, syrups, milk)	FFP	FFP	600.00	1.00000	600.00

Bought in items
- Justified by scope of work?
- Not representing infrastructure?
- Not representing 'normal work' items?
- Sufficiently identified?
- Reasonable cost?

External Services
- Clearly described?
- Clearly needed?
- Value for money?

Proposal Template
Part 3 – Financial Part: PSS costing forms

PSS A2 Exhibit B

TRAVEL PLAN AND COST DETAIL		EXHIBIT "B" TO PSS-A2											Issue 1
RFQ/ITT No.:	18.187.04							Project:		CM2000 Development			
Proposal/Tender No.:	1							Company:		HiQ Beverages Ltd			
Contractual Phase	N/A												
Economic Condition:	2018							Type of Price:		FFP			
National Currency (NC)*:	EUR							Exchange (X): 1 EURO =		1	EUR		
WP Reference Number	WP Title	Purpose/Event	Departure	Destination	Nr. of Trips	Avg.People per Trip	Travel Cost p.p. (NC)	B / E	Avg.Days per Trip	Subsistence Cost p.d. (NC)	A / R	Total Cost (NC)	Total Cost (EURO)
WP400	Detailed Design	Progress meeting #5	Tallinn, Estonia	Riga, Latvia	1	2	100	E	2	120	R	680	680
WP500	Prototype Development and Test	Critical Performance test at ASTM F2990 Certified Commercial Coffee Brewers Testing Facility	Tallinn, Estonia	Brewzone, Italy	1	2	300	E	2	150	R	1,200	1,200
WP500	Prototype Development and Test	Final Presentation of Project Outcome	Tallinn, Estonia	Noordwijk, Netherlands	1	2	250	E	2	200		1,300	1,300
Total Cost, WBS level 1 (equal to the item 3.9 of PSS-A2)												**3,180**	**3,180**

Meetings:
- Matching meeting plan?
- All clearly justified?

People:
- Matched to scope of meeting?

Travels:
- Flight costs reasonable?
- #days reasonable?
- Subsistence reasonable? (often too low)

Proposal Template
Part 3 – Financial Part: PSS costing forms

PSSA8

- ✓ Cost and Hours are broken down per Work Package
- ✓ We evaluate whether there is too much, not enough hours allocated to each WP
- ✓ Consistency of information is important
- ✓ Do not forget to sign the PSSA8
- ✓ Do not forget the total!

Proposal Template
Part 3 – Financial Part: PSS costing forms

Hours per work package

- Matching/ reasonable for scope of work described in WP?
- Reasonable spread of hours (i.e. focus at key part)?
- Hours spent on management reasonable?

COMPANY MANPOWER AND PRICE SUMMARY PER WP — Form no. **PSS A8** — Page X of Y — Issue 5

ITT/RFQ:	18.187.04		Price Type:	FFP	
Proposal/Tender No.:	1		Economic Conditions:	2018	
Company Name:	HiQ Beverages Ltd		National Currency (NC):	EUR	
Contractual Phase:	N/A		Exchange Rate: 1 EUR =	01-1900	
WBS-Level (Number and Title):	1	Workpackage			

WP Title		Management	Requirement Specification and concept	Preliminary Design	Detailed Design	Prototype Development & Test								
WP Number		100	200	300	400	500								Total WBS-Level
Labour Hours per category	Hours													
Project Manager	#	300												300
Senior engineer	#		190	140	680	540								1,550
Junior Engineer	#		50	100	100	300								550
Technician	#			120	40	240								400
QA Manager	#			10	10	60								80
...	#													
...	#													
...	#													
Total Labour Hours	#	300	240	370	830	1,140								2,880
1. Total Labour Cost	NC	11,772.00	12,825.60	15,669.60	44,628.00	51,998.40								136,893.60
2. Internal Special Facilities Cost	NC					1,000.00								
3.1-3.4 Material Costs	NC			1,933.00		2,472.70								4,405.70
3.5 High Rel Parts Costs	NC													
3.6 External Major Products Cost	NC													
3.7 External Services Cost	NC					3,450.00								3,000.00
3.8 Transport/Insurance Cost	NC													
3.9 Travel and Subsistence Cost	NC				780.00	2,718.00								3,498.00
3.10 Miscellaneous Cost	NC					630.00								630.00
3. Total Other Costs (sum of above 3.x)	NC	0.00	0.00	1,933.00	780.00	9,270.70								11,983.70
4. Sub-Total Direct Cost	NC	11,772.00	12,825.60	17,602.60	45,408.00	62,269.10								149,877.30
5.- 7. General expenses	NC	441.45	480.96	587.61	1,673.55	1,949.94								5,133.51
8. Sub-Total Company Cost	NC	12,213.45	13,306.56	18,190.21	47,081.55	64,219.04								155,010.81
9. Profit Fee	NC	977.08	1,064.52	1,455.22	3,766.52	5,137.52								12,400.86
10. Cost without additional charge	NC													
11. Financial Provision for escalation	NC													
12. Total Company Price	NC	13,190.53	14,371.08	19,645.43	50,848.07	69,356.56								167,411.67
	EURO													
13. Total Sub-Contractors Price	NC				12,943.80	11,026.10								23,969.90
	EURO													
14. Reduction for Company contribution	NC													
15. Total Price for ESA	NC													
	EURO	13,190.53	14,371.08	19,645.43	63,791.87	80,382.66								191,381.57

Proposal Template: Part 3 – Financial Part

PLEASE NOTE!

All fields in National Currency and in EURO must be filled in.
Please do not forget to fill in the exchange rate.

For non-profit organizations, no profit can be accepted. For other organisations, the profit shall not exceed 8% of the Total Company Cost shown on line 8, which excludes the base value of 3.5b. Subcontractor prices are not considered to be own company cost and, being already inclusive of profit, are shown on line 13 of the PSS A2 (Issue 5).

Final presentation shall take place at the Agency's premises. The cost of attendance/participation to conferences can only be covered if it is directly pertinent to the work being proposed, and shall be justified.

Overheads on procurements and labour rates are intended to cover admin costs and **general office supplies and overheads.**

Proposal Template: Part 3 – Financial Part

3.2.2 Milestone Payment Plan

Determines **how much** gets paid, **when** and what are the **conditions for payment.**

Milestone (MS) Description	Schedule Date	Payments from ESA to (Prime) Contractor (in Euro)	Country (ISO code)
Progress (MS 1): Upon successful completion of WP xxx and/or successful [review] and acceptance by the Agency of all related deliverable items [Deliverable reference e.g D.1 or TN1 ..].	To + … months		
Progress (MS 2): Upon successful completion of WP xxx and/or successful [review] and acceptance by the Agency of all related deliverable items [Deliverable reference e.g D.1 or TN1 ..].	To + … months		
Final Settlement [1] (MS 3): Upon the Agency's [OPTION] final acceptance of software and [END OPTION] and acceptance of all deliverable items due under the Contract and the Contractor's fulfilment of all other contractual obligations including submission of the Contract Closure Documentation	To + … months	***(not less than 10% of the total contract price)***	
TOTAL			

Proposal Template: Part 3 – Financial Part

- Acceptable Milestone Description
- Preferred description is linked to a review
- Payments should be balanced to predicted expenditure profile

Milestone (MS) Description	Schedule Date	Payments from ESA to (Prime) Contractor (in Euro)	Country (ISO code)
Progress (MS 1): Upon successful completion of the Requirements Review and acceptance of deliverables D1a, D1b, D1c, D2 and D3.	To + 2 months	75,000	EE
Progress (MS 2): Upon successful completion of the Preliminary Design Review and acceptance of deliverables D4a-c, D5, D6a-b, D7.	To + 7 months	74,570	
Final Settlement (MS3): Upon successful completion of the CDR and the Agency's acceptance of all deliverable items due under the Contract and the Contractor's fulfilment of all other contractual obligations including submission of the Contract Closure Documentation.	To +18 months	41,812	
TOTAL		191,382	

Proposal Template: Part 3 – Financial Part

The **advance payment** constitutes a **debt** of the Contractor to the Agency until it has been **offset** against a subsequent milestone. **The amount of the advance payment should be offset by the same amount**.

Prime (P)	**Company Name**	**ESA Entity Code** (at contract signature)	**Country (ISO code)**	**Advance Payment (in Euro)**	**Offset against**	**Offset by Euro**	**Condition for release of the Advance Payment**
P				*Amount (not more than 35% of the total contract price for SMEs and not more than 10% for non-SMEs)*	MS 1	Amount	Upon signature of the Contract by both Parties

In this case **the 66,984€ would be paid** on contract signature. At the first milestone (75K) on **a further 8,016€ would actually be transferred.**

Prime (P)	**Company Name**	**ESA Entity Code** (at contract signature)	**Country (ISO code)**	**Advance Payment (in Euro)**	**Offset against**	**Offset by Euro**	**Condition for release of the Advance Payment**
P	HiQ Beverages Ltd		EE	66,984	MS 1	66,984	Upon signature of the Contract by both Parties

Proposal Template: Part 3 – Financial Part

You are requested to indicate below for information purposes only, the Milestone Payment Plan that is envisaged for Sub-contractor(s).

For Information purposes only :
Amounts in Euro for Contractor and Sub-contractor(s)

Milestone	**Prime Contractor** HiQ Beverages Ltd	***Insert Country (ISO code)*** **EE**	**Sub-contractor A** Under Pressure Manufacturing Ltd	***Insert Country (ISO code)*** **LV**
Advance	61,984		5,000	
MS-1	8,016		0	
MS-2	55,600		18,970	
MS-3	41,812		0	
TOTAL	167,412		23,970	

Proposal Template: Part 3 – Financial Part

PLEASE NOTE!

- All claims for payment shall be linked to the **achievement of defined schedule milestones**. These milestones are to be in the form of significant events in the programme to be selected on the basis of providing a check point for progress in the work performed. E.G.
  - Successful completion of Reviews
  - Acceptance of deliverables

- **Progress reports are not sufficient to make payments**

- **Advance payments** to be made after contract signature, may be agreed in line with:
  - The Advance payment **constitutes a debt of the Contractor to the Agency** until it has been set-off against a subsequent milestone. The advance payment shall nominally be set-off against the 1st progress payment.
  - Advance payments for SMEs are 35% of the contract price. SMEs are classified according to the criteria of the European Commission (Recommendation 2003/361/EC of 6 May 2003 (OJ L 124, 20.5.2003, p. 36)).

- **The final payment milestone** shall not be less than **10% of the contract price**.

Proposal Template: Part 3 – Financial Part

3.3 COST TO COMPLETION

A cost to completion would be positive for all activities with a **completion TRL of 6 or less** (not necessary for education activities). This information is provided for **information only** and is not binding in any way for either party (ESA or Tenderer).

3.3.1 Further steps/ Activities needed to complete the development

Identify each of the main development steps / activities that would be needed AFTER COMPLETION OF THIS ACTIVITY to progress the work to higher TRL - if applicable.

3.3.2 Estimated Cost per step

Provide a **rough estimate** of the expected cost of each further step or activity that would be needed in order **to reach higher TRL** (**two levels** above the final TRL achieved during the proposed work) – if applicable.

Further Step/ Activity	*Estimated cost (Euro)*	*Estimated Start date*	*Estimated end date*

Proposal Template Part 4

Contractual Part

Proposal Template: Part 4 – Contract Conditions Part

4.1 INTELLECTUAL PROPERTY RIGHTS

4.1.1 Background Intellectual Property and Third Party Intellectual Property Rights

4.1.2 Foreground Intellectual Property

4.1.3 Ownership of Foreground Intellectual Property

Proposal Template: Part 4 – Contract Conditions Part

1. Background IPR
    a. Intellectual property existing already BEFORE the ITT.
    b. That is USED for the work of the ITT
    c. That had no ESA financial aid to develop.
    d. Must be listed, must be able to be evidenced (e.g. via patent, notebook or other means)
    e. Impact on the deliverables must be described
        - Which deliverables is it included in?
        - How does it affect that deliverable and ESA's rights?
2. Foreground IPR
    a. Intellectual property developed DURING the Activity
    b. IP shall remain vested in the company
    c. ESA shall also have rights
    d. It shall not affect the deliverables/ rights on the deliverables

Proposal Template: Part 4 – Contract Conditions Part

START
We have an Idea! We have a recipe for astronaut food!

Objective: supply good tasting protein rich cereal bars to space travellers.

Original Recipe – protein rich but tastes awful

BACKGROUND IPR

‘Micro-Ecological Life Support System Alternative’ programme (MELiSSA) Project: spirulina recipe improved after experiments and testing.

Final Recipe – Specific modifications from lessons learned result in a good tasting product

FOREGROUND IPR

Proposal Template: Part 4 – Contract Conditions Part

4.1 INTELLECTUAL PROPERTY RIGHTS

4.1.1. Background Intellectual Property and Third Party Intellectual Property Rights

Exact name of BIPR Item	Owner	Description	Patent # or Ref. / Issue / Revision / Version #	Contract / Funding Details under which the IPR was created	Date of creation of the version of the BIPR listed here	Licence	Affected deliverable with comments	Protected Format (Y/N)
Software controlled super-automation	HiQ Beverages Ltd	Intelligent multi-functional and configurable precision control of hot beverage machines	Patent #1234	Self funded	1st April 2000	N/A	D4b -Software Preliminary Design. This document will be marked company confidential and distribution is limited to the ESA TO only.	N

Proposal Template: Part 4 – Contract Conditions Part

4.1.2 Foreground Intellectual Property

Present the expected FIPR that will be created as a result of the activity.

4.1.3 Ownership of Foreground Intellectual Property
[SELECT AND PROVIDE DETAILS OF ONE OF THE TWO OPTIONS]

[OPTION 1]
Please confirm that the Foreground Intellectual Property Rights created as a result of the present activity will belong to the Tenderer.
[END OPTION 1]

[OPTION 2]
In the case of the participation of Sub-contractor(s), explain the agreement reached between the parties on the ownership of the Intellectual Property and the principles for its exploitation, use and benefits.]
[END OPTION 2]

Please confirm that the Agency shall have an irrevocable right to use the information used in that application, for its own requirements on the terms set out in Article 6.2.2 of the draft Contract.

Proposal Template: Part 4 – Contract Conditions Part

4.2 IMPORT AND EXPORT LICENCES

This section is only **to be completed in case** of items or services that are **subject to** envisaged or probable inclusion **of import/export restrictions**, other than those from the Tenderer's own country, in either the body of the work performed under this activity or in a resulting product or service.

4.2.1 Import and Export Licences applicable to this Activity

[SELECT **ONE** OF THE TWO OPTIONS]

[OPTION1]

The Tenderer declares that no items subject to import or export control will be used in the execution of this activity.

[OPTION2]

The Tenderer declares that the following items, subject to import or export control will be used in the execution of this activity:

Item	Control Type and Country of Origin	Deliverable affected	Comment

Proposal Template: Part 4 – Contract Conditions Part

(Cont.)

4.2 IMPORT AND EXPORT LICENCES

4.2.2 Import and Export Licences applicable to a product or services arising from or resulting from this Activity

SELECT ONE OF THE TWO OPTIONS

[OPTION1]

The Tenderer declares that any products or services arising from or resulting from this activity will not be subject to import or export control or make use of any import/ export controlled items.

[OPTION2]

The Tenderer declares that the following items, subject to import or export control, are expected to be used in an end product or service eventually arising from or resulting from this activity.

Item	Control Type and Country of Origin	Deliverable affected	Comment

End of presentation