

How to write a good proposal for ESA PECS/NMS programmes

Hungary
February 18th, 2021



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

Summary of presentation

1. Disclaimer
2. Common Mistakes
3. The proposal template cover letter
4. The proposal template Part 1 – Technical
5. The proposal template Part 2 – Implementation
6. The proposal template Part 3 - Financial
7. The proposal template Part 4 - Contractual

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 pre-defined page limit of the proposal template (25 for PECS/35 for NMS) – 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: Common Mistakes

VERY BRIEF summary of SOME of the most common mistakes seen:

Criteria 1

1. Objectives difficult to understand or not clearly stated.
2. Poor or missing technical requirements (e.g. not covering the key points, not quantified or verifiable, not matching market need)
3. Poor or missing engineering approach (e.g. Baseline concept not described, missing reviews or checks, lack of key testing or validation)
4. Poor or inadequate programme of work (e.g. missing customer involvement, missing design or development steps) and inconsistency between text, flowchart, WPD and GANTT.
5. Missing experience or facilities – No information on relevant work done by the company, no or poor relevant CVs for the key personnel, no (or poor information) on facilities and/or having no plan to acquire it
6. Poor WPD (e.g. insufficient detail to understand the full scope of the work, no clear responsibilities, inputs and outputs of each WPD)
7. Poor WBS (e.g. spaghetti WBS and flowchart, too many/few WPD, WP not with tasks for more than one entity)

Criteria 2

1. Not meeting the programmatic constraints of the cover letter (e.g. not related to ESA needs or programmes, not space related, not credible start or target TRL, no clear benefit for the country, no user involvement in services and applications proposals)

Proposal Template: Common Mistakes

VERY BRIEF summary of SOME of the most common mistakes seen:

Criteria 3

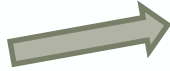
1. Poor management plan (e.g. missing how you will monitor the timely implementation of the activity, sub-contractor control or including a steering group or management 'team' instead of a Project Manager)
2. Poor planning (e.g. insufficient detail, no dependencies, too much in parallel, not matching scope of WPD)
3. Non-credible costing (e.g. hours not corresponding to described scope work in WPD, procurement of inappropriate items, excessive travel costs, price = max available envelope, procured items not detailed or justified)
4. Poor definition of deliverables (e.g. missing deliverables, not covering the full scope of work, deliverables not matching WPD outputs)
5. High/very low management hours.
6. Inconsistency between PSS forms and proposal (costed travels not in meeting plan, facilities/service costed for but not mentioned in proposal)

Criteria 4

1. Some of the documents not signed or missing (e.g. Cover Letter, PSS Forms)
2. Non compliance with tender conditions (e.g. Introducing changes to the Proposal Template or exceeding the maximum number of pages)
3. Disagreeing with the Draft Contract (that you accepted by signing the Cover Letter)
4. Leaving incomplete part of the essential information (e.g. milestone payments, deliverables, leaving empty the IPR section, management plan section or any other section – please fill it: if it is the case say that it does not apply and why)

Contains details on:

- **Title**
- The team submitting the proposal
- **Cost** of the proposal
- What **type** of activity (a, b, c or d)
- **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
- etc.



HU call example:

Type a:** must be led by industry (prime contractor). The bidding team must include an end customer with a clear business case. **Price not higher than Euro 500,000.

Type b:** must be led by industry or academic/research organization but must include an industrial partner for any development potentially leading to a commercial product. **Price not higher than Euro 200,000.

Type c:** may be led by any legal entity depending on the specific context while ESA mission related services must be led by industry. **Price not higher than Euro 75,000.

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.

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

To be followed:

- Simple and concise – but OK: *“Increasing coffee sales by responding to customer demands”*

Not to be followed:

- 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 TECHNICAL REQUIREMENTS OF THE END PRODUCT OR SERVICE:

1.3 TECHNICAL BASELINE AND 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.

- Objectives should:
 - Be **short** (1 to 3 sentences)
 - Be **clear and verifiable**
 - Contain the **core essence** of what should be achieved
- Objectives should not:
 - Describe the work to be done, the work flow or how to do it
 - Describe the nice to haves/ options
 - 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!

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**.

Part 1 – Technical and Application Part

1.2 TECHNICAL REQUIREMENTS OF THE END PRODUCT OR SERVICE:

:

For proposals, requirements are the **key measurable 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 measurable.
- 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.

8. 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



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

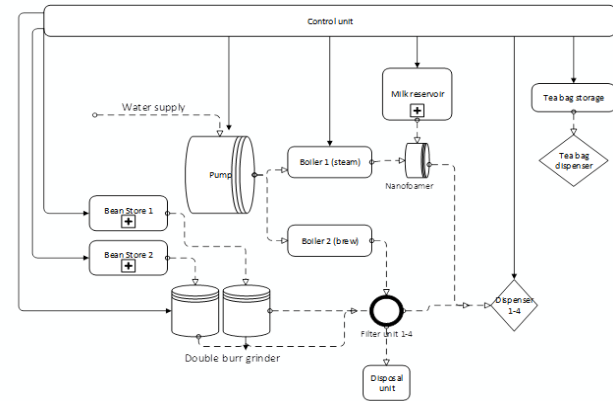
| No. | Req. | Discussion | Verification |
|------|---|---|--------------|
| RCM6 | The HBM shall have a recurring cost of less than 2,000 Euros | Preliminary cost estimation 1700 (+/-300) EUR. Note that this is dependent on the RCM4. | Analysis |
| RCM7 | The running costs of the HBM (excluding the 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 |

1.3 TECHNICAL BASELINE AND TECHNOLOGY READINESS LEVEL

Present a first iteration of the technical solution/baseline design or concept and discuss the trade-offs that need to be taken into account. What evidence is there that it will work?

Provide sufficient **DETAIL** for it to be understood by someone else (e.g. what technique, what waveband, what key technology?). Include a block diagram!

We aim to develop Coffee Master 2000 hot beverage production unit, 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. It is capable of producing 4 ready-to-consume beverages simultaneously without the need of a specialized operator.



1.3 TECHNICAL BASELINE AND 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**.

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.

➤ See page 5 of example proposal

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...//

➤ [See page 5-7 of example proposal](#)

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?

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

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”

1.6 APPLICATION OF TECHNOLOGY DEVELOPMENT

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.

Part 1 – Technical and Application Part

1.6 APPLICATION OF TECHNOLOGY DEVELOPMENT

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**.

1.7 TECHNICAL IMPLEMENTATION / PROGRAMME OF WORK

1.7.1 Proposed Work Logic

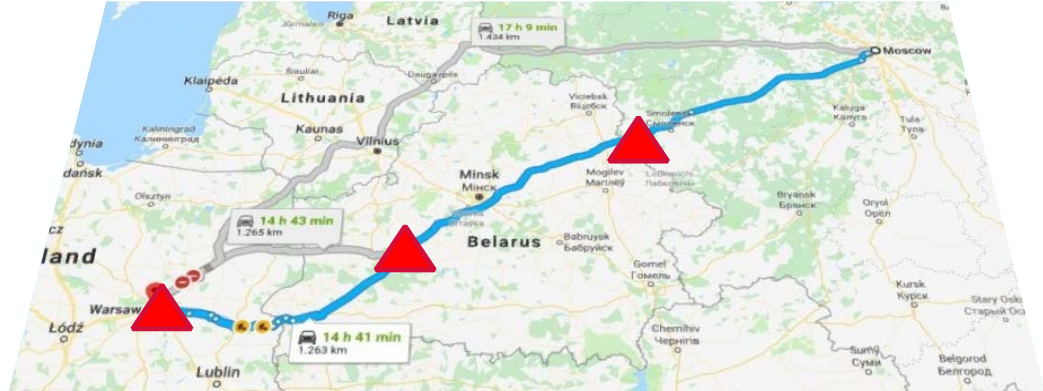
1.7.2 Contents of the proposed work

1.7.2.1 Work Breakdown Structure (WBS)

1.7.2.2 Work Package Description (WPD)

Consider a roadtrip from Moscow to Warsaw

The **Flowchart** is intended to show **the order** in which the work needs to be performed (i.e. the logic) and the **checks and balances** put in place, i.e. work flow, dependencies, reviews (internal/ external).

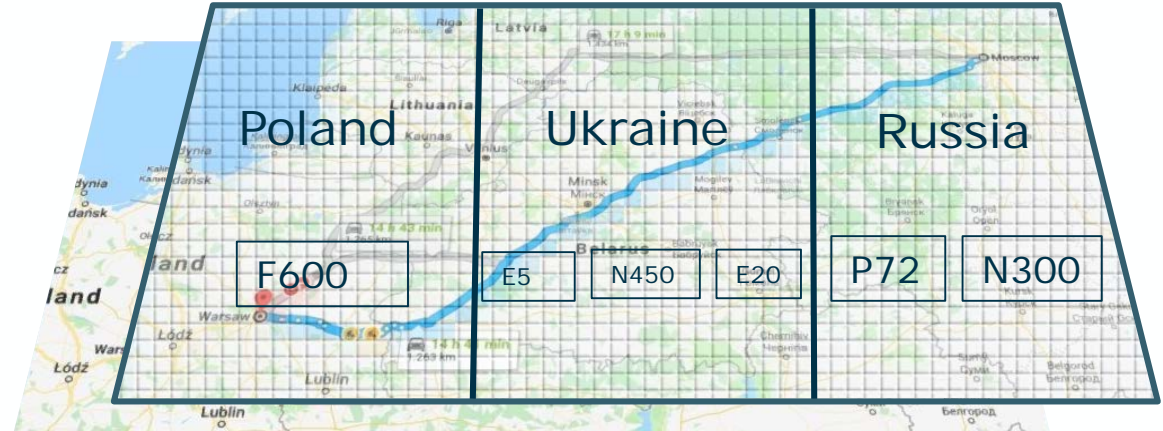


Example: on the map the red triangles mark the **checks and balances** put in place along the blue line which corresponds to **the order** in which the work needs to be performed.

Part 1 – Technical and Application Part

Consider a roadtrip from Moscow to Warsaw

The **Work Breakdown Structure** is a management tool to assist the effective definition, monitoring, management, payment and running of the activity.

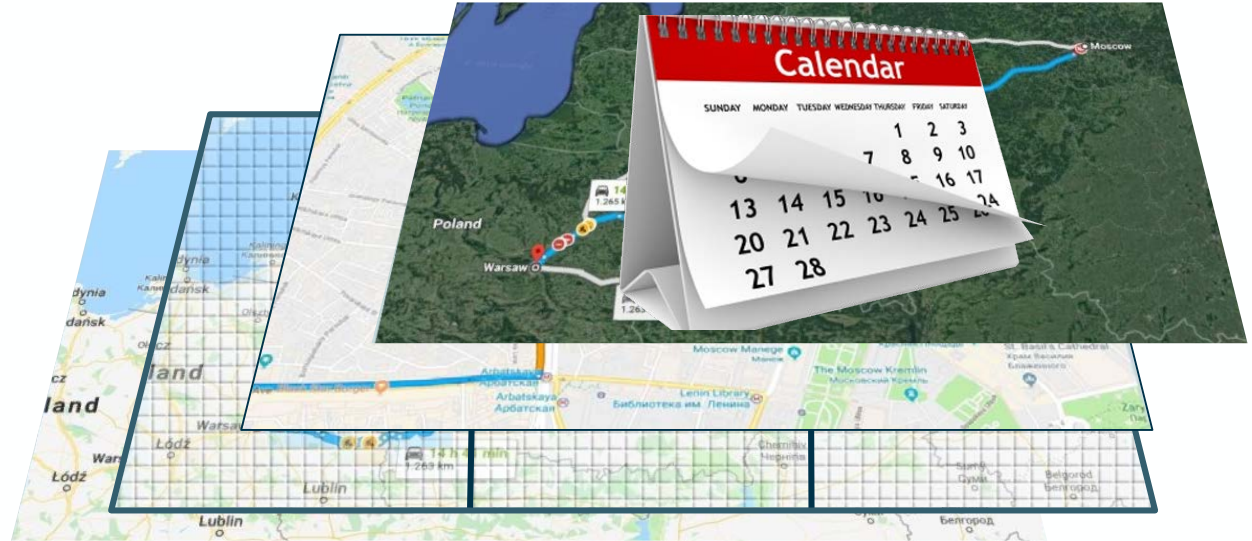


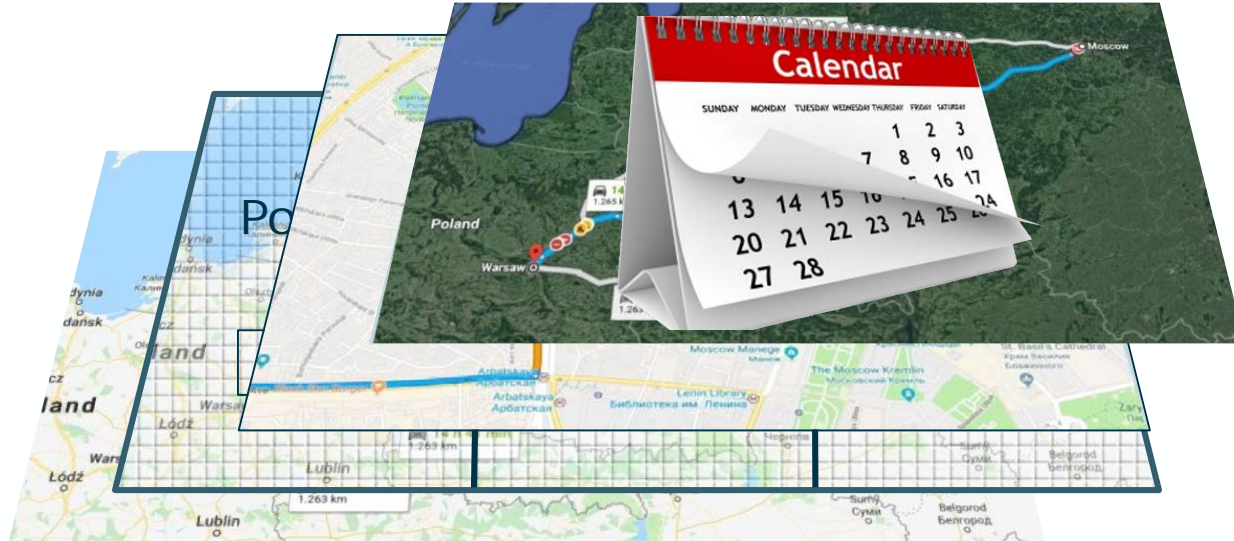
Consider a roadtrip from Moscow to Warsaw

The **Work Package description** form the detailed description of the work that will be performed.



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**.





⇒ GANTT Chart

⇒ WPDs

⇒ WBS

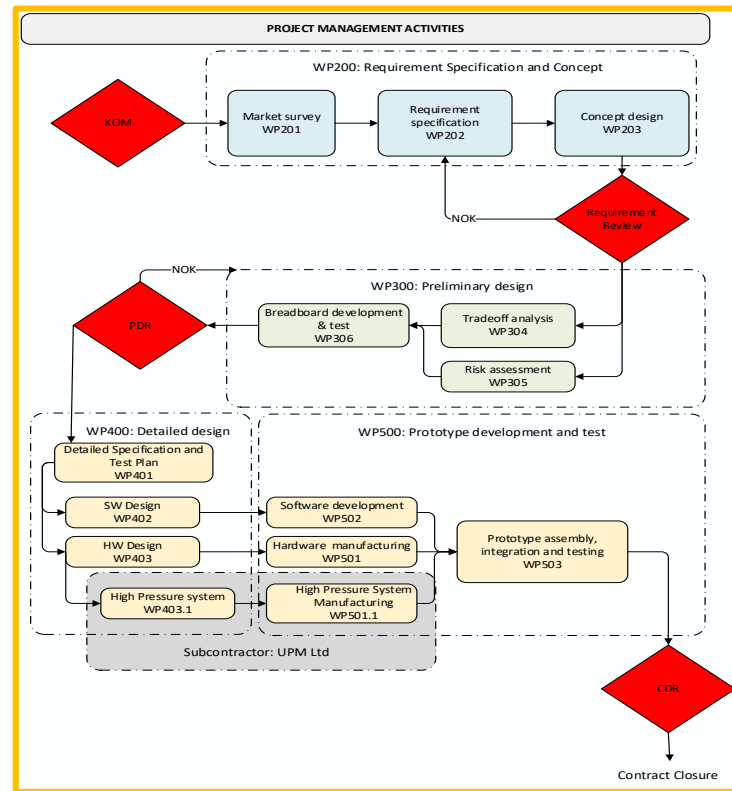
⇒ Flow Chart

These elements have to be consistent!

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



1.7.2 Contents of the proposed work

1.7.2.1 Work Breakdown Structure (WBS)

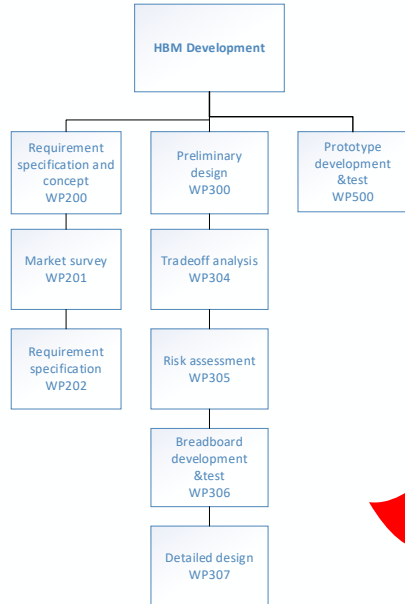
- Logically structure the main Work Packages following the main tasks of the work flow (preferably 'gated' by reviews)
- Include **WP for management**
- Ensure **each company** has separate **(sub)work packages**
- Ensure all tasks in one work package 'belong together'

Proposal Template

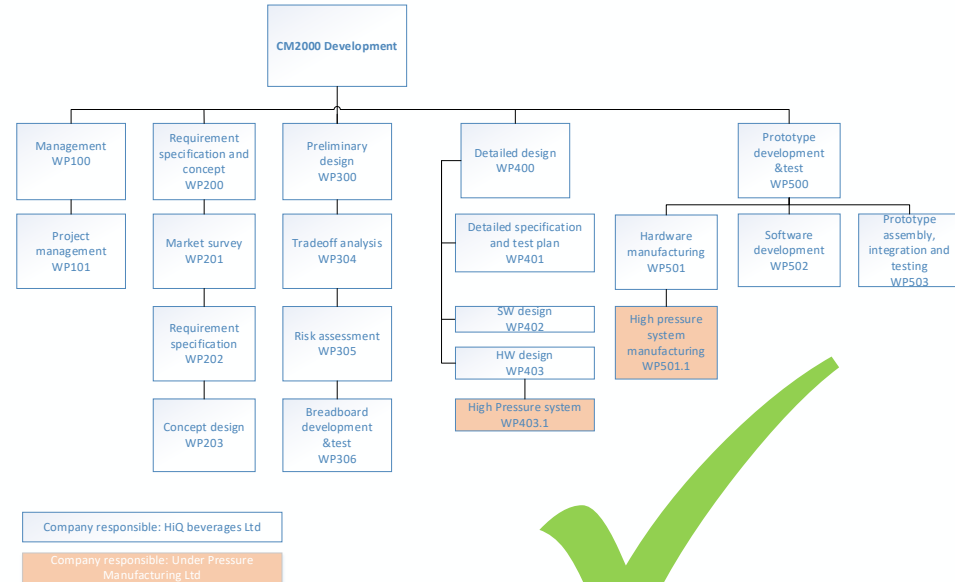
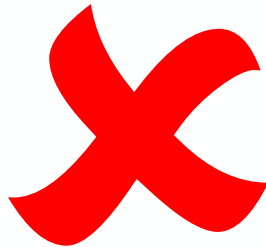
Part 1 – Technical and Application Part

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



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)

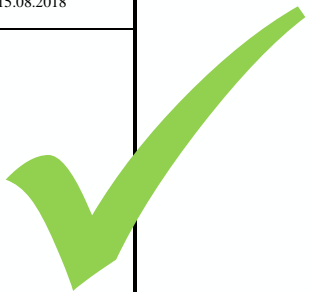
1. Essential Data:

- 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.

| | | |
|--|--|--|
| PROJECT: CM2000 Development | PHASE: 1 | WP: 201 |
| WP Title: Market Survey Company: HiQ Beverages Ltd WP Manager: Mr. Bean | | Sheet 1 of 1 Issue Ref: 1 Issue Date: 15.08.2018 |
| Start Event: KOM End Event: RR | Planned Date: T0 Planned Date: T0+3 | |
| Inputs: <ul style="list-style-type: none"> • SoW • Approved proposal • KOM Minutes of Meeting • AD1 • RD1 Tasks: <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> • 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 | | Sheet 1 of 1 |
| WP Manager: Mr. Bean | | |
| Start Event: KOM End Event: End of project | Planned Date: 1 st April 2018 Planned Date: 1 st April 2019 | |
| Tasks: <ul style="list-style-type: none"> • 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)

1.8 BACKGROUND OF THE COMPANY(IES)

We are only interested in RELEVANT background and experience.

- Present an overview of the company addressing:
 - The number of personnel
 - The year in which the company was established
 - Location of sites
 - Briefly describe the relevant experience for the Contractor and Sub-contractor(s), if any, for the performance of such a work (the tenderer may submit additional information on the general background of the entities beyond the 35 pages with Annexes)

Do not waste space in the proposal with non-relevant experience.

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

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 in 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 dispensation, 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.

Part 1 – Technical and Application Part

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.

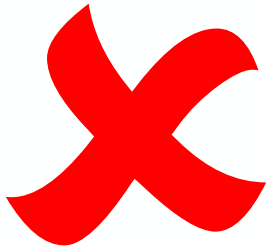
1. Example Facilities
 1. Test equipment
 2. Specialist design and analysis software
 3. Specialist computing facilities
 4. Specialist manufacturing facilities

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

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.



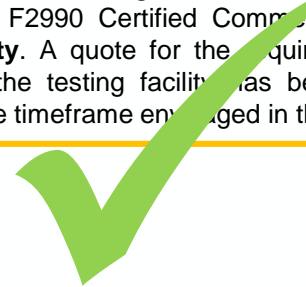
1.9 FACILITIES

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 envisaged 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%.**

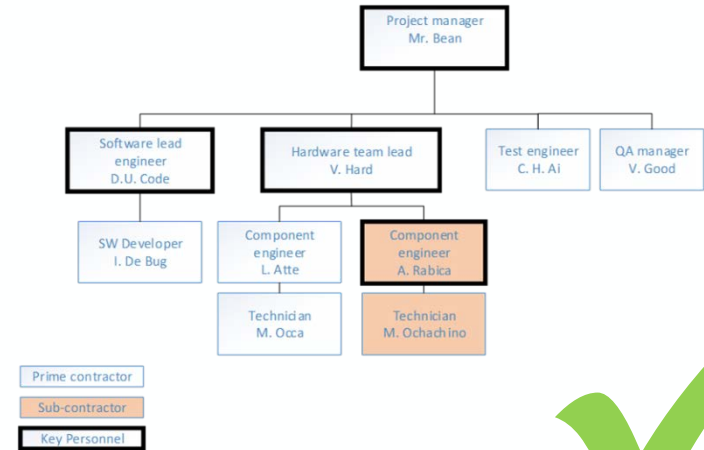
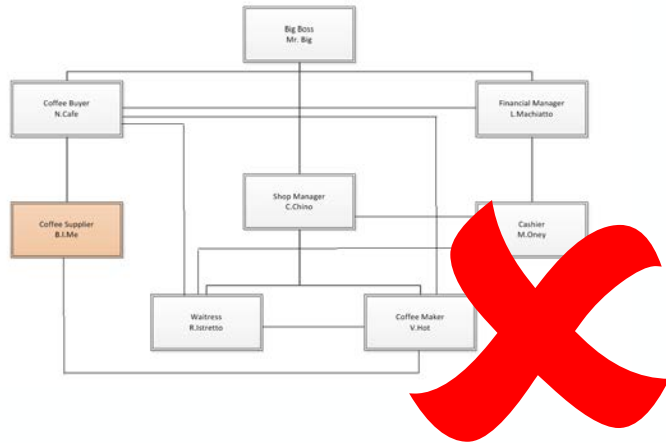
Proposal Template

Part 2 – Management Part

2.1.1.1 Overall team composition, key personnel

Provide an organigramme for the Project Team, 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

2.1.1.3 Time dedication of 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 |
|---------------------------------|--------------------------------------|--|---|
| Project manager Mr. Bean | 530 | 1600 | 33 |
| SW lead engineer D.U.Code | 760 | 1800 | 42 |
| HW team lead V. Hard | 660 | 1800 | 37 |
| Component engineer 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

➤ See page 17-18 of example proposal

Proposal Template

Part 2 – Management Part

2.3 RATIONALE OF THE PROPOSED INDUSTRIAL ORGANISATION

In case of Subcontractor(s), provide a justification for the choice of the subcontractor and ensure compliance with Point 1 of the ITT Cover Letter. Indicate Not Applicable in case no subcontractor(s) are involved

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 | Timeline | | | | | | | | | | | |
|----|---------------------------|----------|--------------|--------------|----------|-------------|-----|-----|-------------|-----|-----|-------------|--|--|--|--|
| | | | | | Dec | Qtr 1, 2020 | | | Qtr 2, 2020 | | | Qtr 3, 2020 | | | | |
| | | | | | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | | | | |
| 1 | CM2000 Development | | | | | | | | | | | | | | | |
| 2 | Management | 153 days | Wed 01/01/20 | Wed 01/01/20 | | | | | | | | | | | | |
| 3 | Requirement Specification | 44 days | Wed 01/01/20 | Wed 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 | | | | | | | | | | | | |

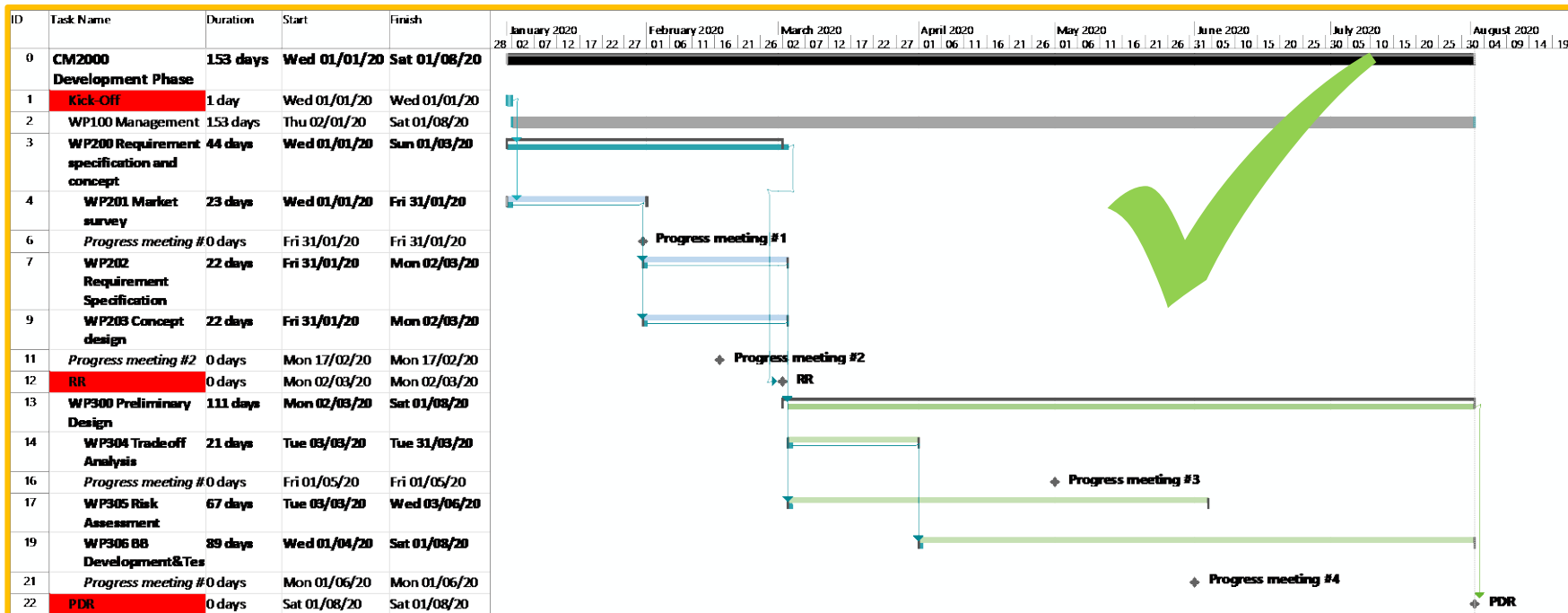
Names not matching WBS titles

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



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



ESA implements the European Cooperation for Space Standardization (ECSS) in its programs. This implementation is **not required** for PECS 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 2

Financial Part



8. 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.

8. 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 EXEMPTION CERTIFICATE as they do not stand in a direct contractual relationship with ESA; they are paid by the Prime.

8. 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.

8. 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]

8. 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

8. Proposal Template

Part 3 – Financial Part: PSS costing forms

To get PSS Forms

<http://emits.esa.int>

ESA PSS-A Forms Templates

... in the General Conditions of Tender for ESA Contracts ESA/REG/001, rev.3, Annex IV. These tables are used ... the total price of an industrial proposal.

... procedures Specifications and Standards, to which is added an 'A' series of tables, or costing forms.

... suppliers can find the original templates of the required PSS-A forms in this page. The users are recommended to ... each template.

| PSS | Type of listing | Forms |
|-------------------|---|-------|
| PSS-A1 | COMPANY COST RATES AND OVERHEADS | |
| PSS-A2 | COMPANY PRICE BREAKDOWN FORM | |
| Incl. Exhibit A&B | | |
| PSS-A4 | PROJECT MANPOWER AND PRICE BREAKDOWN FORM | |
| PSS-A6 | CONTRACT PRICE SUMMARY FORM | |
| PSS-A8 | PROJECT MANPOWER AND PRICE SUMMARY PER WP | |
| PSS-A10 | COMPANY MANPOWER AND COST PLAN | |
| PSS-A15 | CONTRACT PRICE PROJECTION in THOUSANDS EURO | |
| PSS-A15.1 | COMPANY PRICE PROJECTION VS. PAYMENT PLAN in THOUSANDS EURO | |
| PSS-A20 | WORK PACKAGE DESCRIPTION | |
| PSS-A40 | HIGH-RELIABILITY PARTS PROCUREMENT QUESTIONNAIRE | |
| PSS-A45 | PRODUCT TREE AND HARDWARE BREAKDOWN | |

For projects where the use of [ECOS](#) (ESA Costing Software) is required, these forms shall be printed using the ECOS reports.

8. 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.

8. 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.

➤ See page 31 of example proposal

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.

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 | | Name: HIQ Beverages Ltd Country: Estonia | | Representative Name and Title: Mr. Bean Signature: | |
| Proposal/Tender No.: | | 1 | | | | | | | |
| Type of Price: | | FFP Firm Fixed Price | | | | | | | |
| Economic Condition: | | 2018 | | | | | | | |
| National Currency (NC): | | EUR | | | | | | | |
| Exchange Rate (X): | | 1 EURO = 1.00000 | | EUR | | | | | |
| Contractual Phase: | | N/A | | | | | | | |
| 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 Man Year 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 |
| | | | | | 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 |

| | | | | | | | | |
|------|--|-------------------------------|--------|-------------------|-----------|-----------|------------|------------|
| 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%?

Total – less than max ceiling?

8. Proposal Template

Part 3 – Financial Part: PSS costing forms

PSS A2 Exhibit A

| COMPANY PRICE BREAKDOWN FORM | | EXHIBIT "A" TO PSS A2 | | | Issue 5 | |
|--|--|--|-------------------|-----------------|----------------------|--------------|
| RFQ/ITT No.: 18.187.04 | | Page No. 1 No. of Pages 1 | | | | |
| Proposal/Tender No.: 1 | | COMPANY NAME: HiQ Beverages Ltd | | | | |
| National Currency: EUR | | Name and Title: Mr. Bean | | | | |
| 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?

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 | | | | | | Type of Price: | | | FFP | | | | |
| Economic Condition: | 2018 | | | | | | Exchange (X): 1 EURO = | | | 1 EUR | | | | |
| National Currency (NC)*: | 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 | | | | | | | | | | | | |
| WP500 | Prototype Development and Test | 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 | | 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)

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 !

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 | | | | | | | | | | |
| Proposal/Tender No.: | | 1 | | | | | | | | | | |
| Company Name: | | HIC Beverages Ltd | | | | | | | | | | |
| Contractual Phase: | | N/A | | | | | | | | | | |
| WBS-Level (Number and Title): | | 1 Workpackage | | | | | | | | | | |
| | | Price Type: FFP | | | | | | | | | | |
| | | Economic Conditions: 2018 | | | | | | | | | | |
| | | National Currency (NC): EUR | | | | | | | | | | |
| | | Exchange Rate: 1 EUR = 01-1900 | | | | | | | | | | |
| WP Title | Management | Requirement Specification and concept | Preliminary Design | Detailed Design | Prototype Development & Test | | | | | | | Total WBS-Level |
| WP Number | 100 | 200 | 300 | 600 | 500 | | | | | | | |
| 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 | <i>(not less than 10% of the total contract price)</i> | |
| 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 | | | | <i>Amount (not more than 35% of the total contract price for SMEs and not more than 10% for non-SMEs)</i> | 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 | Insert Country (ISO code) | Sub-contractor A | Insert Country (ISO code) |
| | HiQ Beverages Ltd | EE | Under Pressure Manufacturing Ltd | 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.

| <i>Further Activity</i> | <i>Step/</i> | <i>Estimated cost (Euro)</i> | <i>Estimated Start date</i> | <i>Estimated end date</i> |
|-------------------------|--------------|------------------------------|-----------------------------|---------------------------|
| | | | | |
| | | | | |

Proposal Template Part 4

Contractual Part



8. 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

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

4.1 INTELLECTUAL PROPERTY RIGHTS

4.1.1. Background Intellectual Property and Third Party Intellectual Property Rights

| Exact name of BIPR Item | Owner, Country | Description | Reference: Patent / Issue / Revision / Version / Licence # | Contract / Funding Details under which the IPR was created | Name of the affected deliverable |
|--------------------------------------|-----------------------|--|--|--|---|
| Software controlled super-automation | HiQ Beverages Ltd, EE | Intelligent multi-functional and configurable precision control of hot beverage machines | Patent #1234 | Self-funded | D4b -Software Preliminary Design. This document will be marked company confidential and distribution is limited to the ESA TO. |

➤ See page 26 of example proposal

Proposal Template

Part 4 – Contract Conditions Part

START

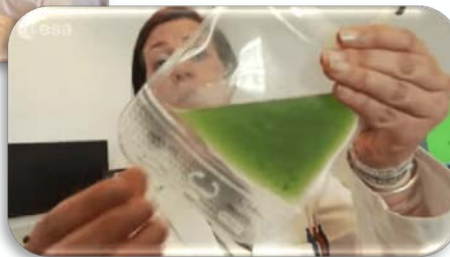
We have an Idea! We have a recipe for astronaut food!

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

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 |
|------|------------------------------------|----------------------|---------|
| | | | |
| | | | |

8. 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

