Compliant PSS-A Forms for ESA Projects

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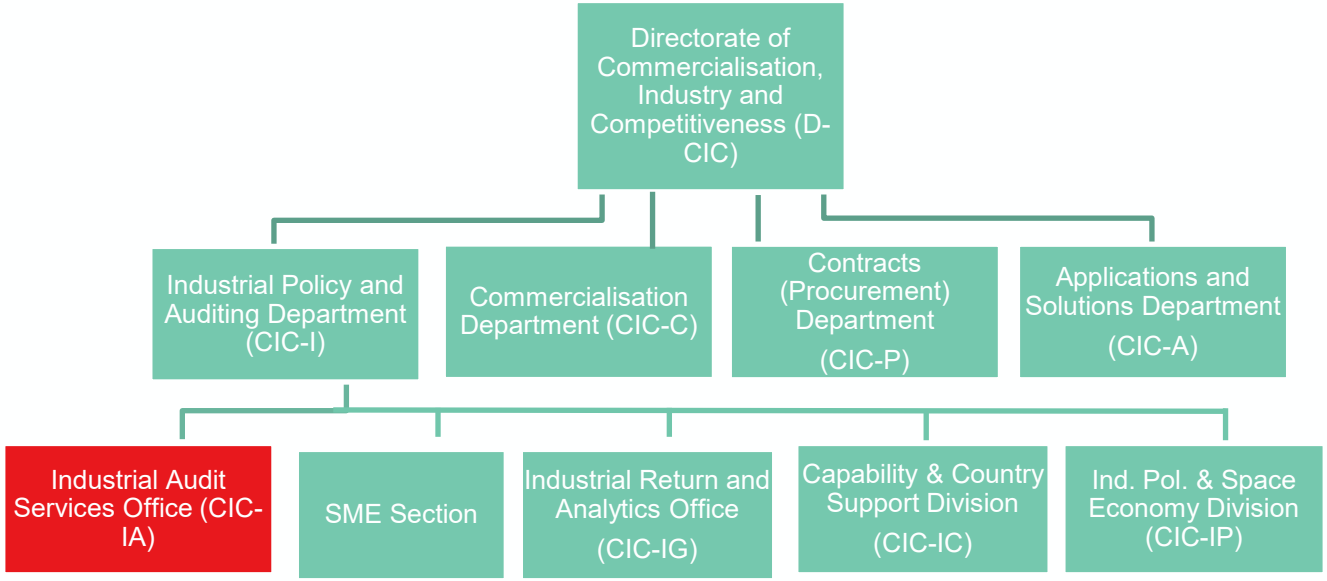
1. Introduction

ESA Industrial Audit Office

Industrial Audit as a Corporate Function:

- Defines rules and policies for cost and pricing and certifies their applicability in ESA projects
- Establishes rates agreements with industry
- Judges the reasonability and allowability of costs charged in ESA contracts and contract proposals.
- Supports ESA Programmes on all aspects related to the industrial cost analysis
- Collaborates with other National Audit Authorities



*Multi-location: ESTEC, HQ, ESAC, ESOC

Audit Services

The ESA Industrial Audit team is directly responsible for **all cost auditing aspects**:

Industrial Rate AUDITS	Financial Viability & Monitoring AUDITS	TEB/ Contract Negotiations	AD HOC AUDITS (e.g. covid19/inflation)
Cost AUDITS (e.g. Cost Reimbursement/ Co-Funded)	Nationality AUDITS	Special Mandate AUDITS (e.g. Ariane)	Corp. support services (e.g. Price Variation Formulas, PSS)

In addition, the ESA Industrial Audit team **supports industry** in many ways:

- Coordination on the development of policies and regulations (ie. GCC, Profit Policy);
- Harmonisation and coordination of methodologies with National Audit Authorities;
- PSS-A forms education, advice & support;
- Tools and publications (e.g. SOGETI);
- Training and consultancy (e.g. dedicated email address: pss@esa.int, bilaterals).

Introduction – PSS Forms

Procedures, Specifications and Standards (PSS)

WHAT ARE THEY?

All companies participating in an ESA Invitation To Tender are required to complete a financial proposal which must also include the ESA Procedures, Specifications and Standards Forms – known as PSS forms. These forms are simply a standard set of different tables used to break down costs (by cost element, work package and time period etc.) and give transparency to the total price of an industrial proposal.

WHY USE THEM?

The use of the ESA PSS forms to show cost data is a requirement defined under the General Conditions of Tender for ESA Contracts (ESA/REG/001, rev.3, Annex IV), in order to ensure the same approach for all tenderers and to enable a proper review, comparison and selection by a Tender Evaluation Board (TEB).

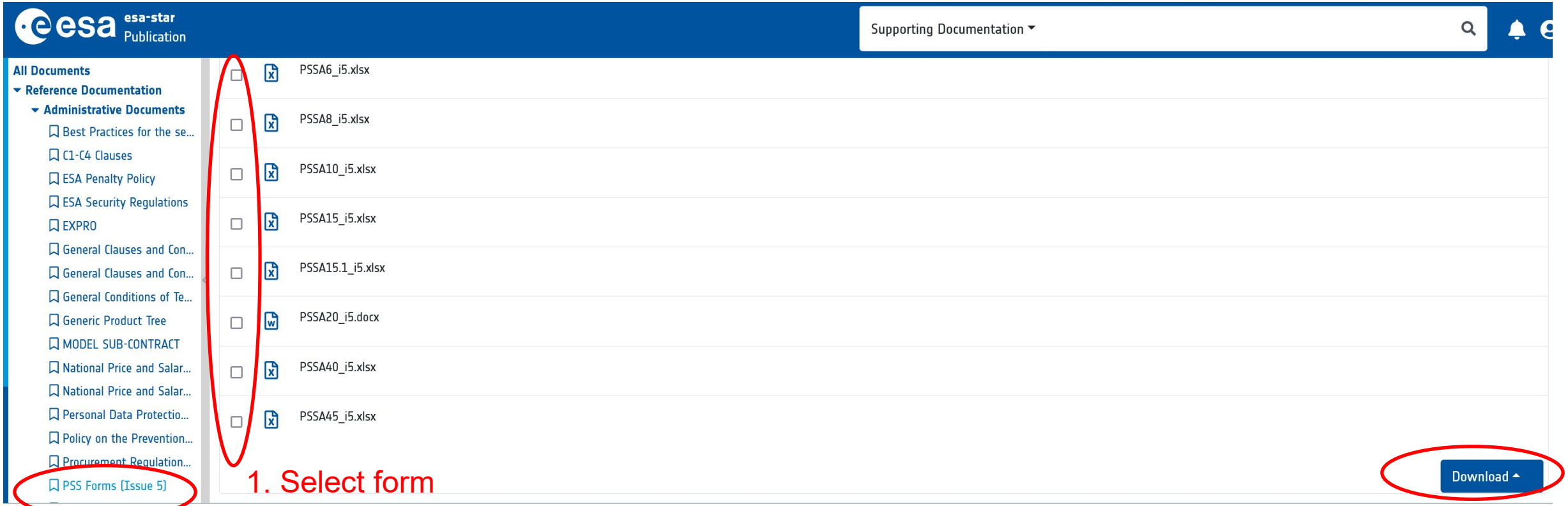
WHERE TO FIND THEM?

The Excel formatted PSS forms (ISSUE 5) and their detailed instructions can be found in the ESA-STAR Tendering system.

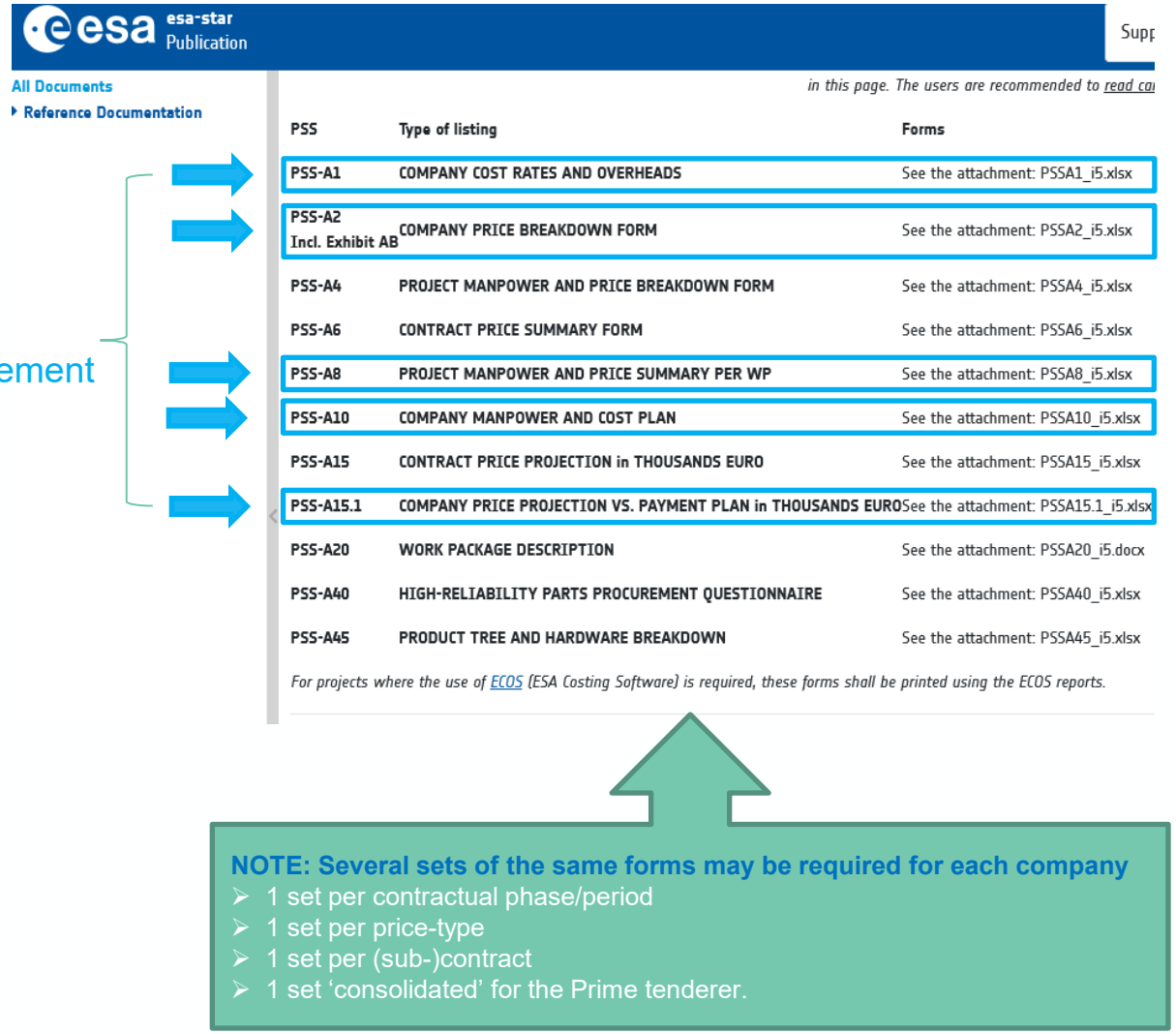
(https://esastar-publication-ext.sso.esa.int/supportingDocumentation/details/18)

ESA-STAR Tendering

LINK: https://esastar-publication-ext.sso.esa.int/supportingDocumentation/details/18 under “Reference Documentation” >“Administrative Documents” > “PSS Forms (Issue 5)”

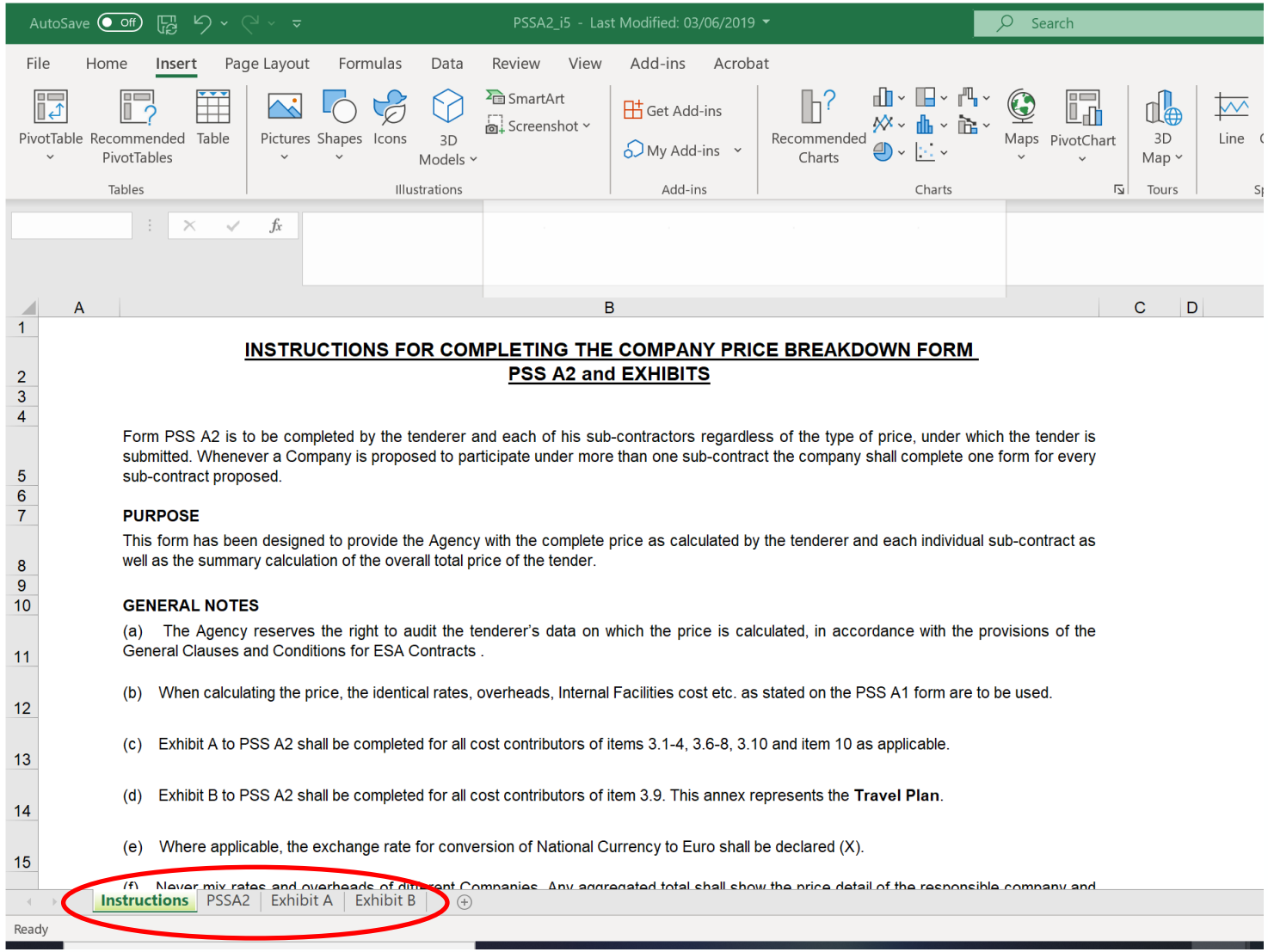


Most Used PSS Forms



- Each ITT will specify which PSS forms are required to be submitted with the financial proposal. Not all of them will always be required.
- The most common PSS Forms are the PSS A1, A2 (including Exhibit A and B), A8, A10 and A15.1.
- Only the more complex development programs will require additional forms. This presentation will focus on the forms mentioned above.

Example of Excel download



- Each PSS Form comes with an "Instructions Tab" which details each section of the form

The ESA Costing Software (ECOS)

ESA offers free-of-charge a software for the preparation of the price proposal.

- Mandatory for large projects (>10M €)
- Ensures full compliance

ECOS version 5 is currently running stand-alone ie. not integrated in ESA-STAR.

NOTE: In the future, it is hoped that a more user friendly and simplified ECOS (ie. version 6 being a new development) is to be used for all procurements and integrated in ESA-STAR.

Training offered in ESTEC and manual/video training available.

https://www.esa.int/About_Us/Business_with_ESA/How_to_do/Introduction_to_ESA_Costing_Software (ECOS)

2. Simple Cost and Rates Structure

Simple Cost and Rates Structure

Simplest Rate Calculation All-Inclusive Average Company Hourly Rate		Annual Budget 2021	
LABOUR			
Direct FTEs		25	A
Sellable Hours per Annum per FTE		1620	B
Sellable Hours per Annum (total)		40500	C = A * B
Indirect FTEs		5	

COSTS		**k€**	
Direct Salaries		*1250*	
+ Employers Statutory Social/Pension Charges (direct FTE)	*20%*	*250*	
+ Other Employers Payroll Charges/Benefits (direct FTE)	*10%*	*125*	
Payroll Cost for Direct Staff		**1625**	D
Payroll Cost for Indirect Staff (includes Indirect Salaries, Statutory Social/Pension, Other		**250**	E
Total Gross Company Payroll Cost		***1875***	F = D + E
Rent and Utilities		280	
Insurance		50	
Office supplies/Training		75	
Building Maintenance/cleaning/security		100	
ICT (internet, telephone..)		50	
Total other Indirect (Overhead) Operating Costs		***555***	G
Total Company Direct + Indirect COST BASE		**2430**	H = F + G
Project Direct Costs (eg. Raw Materials, Travel, Transport, External services, EEE, etc.)		230	

HOURLY RATES				
Basic Hourly Rate	€/Hr	40.12	40.12	I = D / C
Direct Overhead	€/Hr	19.88	49.54%	J = (E + G) / C
Gross Hourly Rate (all-inclusive)	**€/Hr**	**60.00**	**60.00**	**K = I + J (K = H / C)**

- In order to complete the Financial Proposal using the PSS Forms, you will need to calculate your labour, facility and overhead rates.
- Since every entity has a different view of, or management information requirement for their cost accounting structure, there can be no standard structure for rates and hence the PSS forms are designed to cater for all eventualities, which can sometimes make them appear more complex than they really are.
- Not all rate and overhead elements, available in the standard PSS formats, need apply! In the simplest format all labour, facility & overhead costs can be accounted for in one average company Hourly rate, which covers all expected direct labour and indirect/overhead expenses, as shown here in this simple example.

Expanded Skill Rate Structure

Example with Overhead as a flat €/Hour	Grade	D	C	B	A	
Entity X	Skill	Assistant Technician	Technician	Engineer	Expert Engineer	**Total Budget 2021**
Direct FTEs		2	6	15	2	**25**
Sellable Hours per Annum pp		1,620	1,620	1,620	1,620	
Sellable Hours per Annum		3,240	9,720	24,300	3,240	**40,500**
		€	€	€	€	€
Rate Category Average Gross Employees Salary per Annum		22,500	40,000	55,000	70,000	
+ Employers Statutory Social/Pension Charges	20%	4,500	8,000	11,000	14,000	
+ Other Employers Payroll Charges/Benefits	10%	2,250	4,000	5,500	7,000	
= Gross Company Payroll Cost of Employment per person		29,250	52,000	71,500	91,000	
Gross Company Payroll Cost (Direct Staff)		58,500	312,000	1,072,500	182,000	**1,625,000**
Company Overhead (includes indirect payroll cost)		64,400	193,200	483,000	64,400	805,000
Company Cost per annum		**93,650**	**245,200**	**554,500**	**155,400**	**2,430,000**
Company Rate/Hour Labour	**€/Hr**	**18.06**	**32.10**	**44.14**	**56.17**	**40.12**
Company Rate/Hour Overhead *	**€/Hr**	**19.88**	**19.88**	**19.88**	**19.88**	**19.88**
Company Gross Rate/Hour	**€/Hr**	**37.93**	**51.98**	**64.01**	**76.05**	**60.00**

- In a slightly more complex structure, the company may identify costs and rates according to its technical expertise categories.

NOTE:
FTE = Full-Time Equivalent
(All headcount has to be determined in FTE)

1 person working full-time from 1/1 to 31/12 = 1 FTE
1 person working full-time from 1/1 to 30/6 = 0.5 FTE
1 person working part-time (50%) from 1/1 to 31/12 = 0.5 FTE
1 person working part-time (70%) from 1/7 to 31/12 = 0.5 * 70% = 0.35 FTE

Simple Cost and Rates Structure – with descriptions

Simplest Rate Calculation All-Inclusive Average Company Hourly Rate		Annual Budget 2021		
				All costs covered by your rates structure are subject to the conditions, and exclusions found in the General Clauses and Conditions for ESA Contracts, ESA/REG/002 Annex I documentation
LABOUR				
Direct FTEs		25	A	These are your engineers who can directly allocate their time to projects, usually via a time recording system (ESA/REG/002 Annex I Clause 3.1 b.)
Sellable Hours per Annum per FTE		1620	B	These are the average available hours after allowing for time spent on indirect activities, such as process improvements, proposal preparation etc. i.e. the hours that can effectively be sold to 3rd party contracts at an hourly rate = "sellable hours"
Sellable Hours per Annum (total)		40500	C = A * B	Total Sellable Hours
Indirect FTEs		5		

COSTS		**k€**		
Direct Salaries		*1250*		Gross salary costs per year for all direct staff
+ Employers Statutory Social/Pension Charges (direct FTE)	*20%*	*250*		Statutory employment costs (according to national employment law) for all direct staff
+ Other Employers Payroll Charges/Benefits (direct FTE)	*10%*	*125*		Voluntary employment costs e.g. additional contributions to pension, life assurance, meal allowances etc. for all direct staff
Payroll Cost for Direct Staff		**1625**	D	**ESA/REG/002 Annex I Clause 3.1b) -**Direct Labour Cost ... that portion of gross wages or salaries incurred for work, which can be specifically identified and measured ... to be performed on a Contract ... These costs (Salaries, Social Charges, Pension Costs and other payroll related charges) are allocated to the Contract by means of hourly rates...
Payroll Cost for Indirect Staff (includes Indirect Salaries, Statutory Social/Pension, Other		**250**	E	Indirect Labour Cost (cost for Indirect functional people e.g. CEO, CFO, HR, Finance, Receptionist etc.)
Total Gross Company Payroll Cost		***1875***	F = D + E	Total Labour Cost
Rent and Utilities		280		
Insurance		50		
Office supplies/Training		75		
Building Maintenance/cleaning/security		100		
ICT (internet, telephone..)		50		
Total other Indirect (Overhead) Operating Costs		***555***	G	**ESA/REG/002 Annex I Clause 3.2.1 -**An indirect cost is one which has not been treated as a direct cost. Indirect Costs (overhead) are those costs, which, though necessarily having been incurred for the conduct of a Contractor's business in general, cannot be identified and measured as directly applicable to contracts.
Total Company Direct + Indirect COST BASE		**2430**	H = F + G	Total labour and overhead costs: Does not include direct material/other costs which are directly charged to the project in Section 3 of the PSS forms.
Project Direct Costs (eg. Raw Materials, Travel, Transport, External services, EEE, etc.)		230		**ESA/REG/002 Annex I Clause 3.1**Direct costs - meaning the cost of direct materials and other direct costs which can be specifically identified and measured as having been used or to be used on the Contract. (Invoices charged directly or via stock/inventory).

HOURLY RATES					
Basic Hourly Rate	€/Hr	40.12	40.12	I = D / C	
Direct Overhead	€/Hr	19.88	49.54%	J = (E + G) / C	Overhead may be stated as €/Hr or as a % of the Basic Hourly Rate.
Gross Hourly Rate (all-inclusive)	**€/Hr**	**60.00**	**60.00**	**K = I + J (K = H / C)**	Rates to be used in the PSS A1. All-inclusive rates include all overhead costs in the hourly rate.

More Complex Example

Typically SMEs

An entitys costs can be represented in a combination of many ways				Simple Cost Structure	Complex Cost Structure	Company Annual Budget	A	B	C
FULL COST = COSTBASE	INDIRECT EXPENSES	INDIRECT EXPENSES	INDIRECT COST POOL	OVERHEAD RATES	INDUSTRIAL OVERHEAD	Labour, facility and overhead rates	485,000	509,000	805,000
					FACILITIES		80,000	0	0
					PROCUREMENT / MATERIAL HANDLING		5,000	6,000	0
					General & Administration = G&A		140,000	240,000	0
	PAYROLL - SALARIES, SOCIAL CHARGES & PENSIONS	INDIRECT SALARIES			Research & Development = R&D		95,000	50,000	0
		DIRECT SALARIES	DIRECT COST POOL	Direct Labour Rates	DIRECT SALARIES		1,625,000	1,625,000	1,625,000
	DIRECT SUBCONTRACTS, RAW MATERIALS & OTHER PROJECT DIRECT EXPENSES & PURCHASES	DIRECT SUBCONTRACTS, RAW MATERIALS & OTHER PROJECT DIRECT EXPENSES & PURCHASES		INVOICES	DIRECT SUBCONTRACTS, RAW MATERIALS & OTHER PROJECT DIRECT EXPENSES & PURCHASES	Other Direct Costs	230,000	230,000	230,000
							500,000	500,000	500,000
100%	100%	100%	100%	100%	100%	Annual Cost	3,160,000	3,160,000	3,160,000
						Profit	212,800	212,800	212,800
						Price	3,372,800	3,372,800	3,372,800

Recovered with Rates & OHs in PSS Form (2430k)

Recovered Directly in PSS Form

Same Cost to be recovered

Recommendations for SMEs

- Aim for only labour hourly rates (all-inclusive) - no complicated rates structure!
- Use only a few labour categories (min 4-5 FTE in each category).
- Companies with <20 heads, only 1 or 2 categories.
- DO NOT USE ‘MARKET RATES’!

(calculated rates must give a true representation of company costs and exclude profit)

- Ensure costs are allowable and reasonable, in accordance to Annex I to the ESA GCC.
- Consider future evolutions of the company.

3. PSSA1 – Company Cost Rates and Overheads

PSS A1 – Summary of the labour, facility and overhead rates

COMPANY RATES AND OVERHEADS	FORM No. PSS A1		Page no. 1 of 1		Issue 5
			COMPANY NAME:	Company X	
RFQ/ITT no.:	ESA ITT Number 12345/NL/XM			FR	
PROPOSAL no.:	PT/12345/A		Name and title:		
ECONOMIC CONDITIONS:	2021				
NATIONAL CURRENCY (NC):	EURO		Signature:		
VALIDITY PERIOD :	From. 01/01/2021	To. 31/12/2021			
ESA Audit agreement reference / date					

					Agreed by				
					MOD	ESA			
					Status (x when applicable)				
1. LABOUR									
Direct labour cost centres or categories Code and Name			*Basic Hourly Rate (NC)*	*Direct Overhead (% or Rate in NC)*	*Gross Hourly Rate (NC)*				
CAT 1	Engineering		40.12	19.88	60.00				
2. INTERNAL SPECIAL FACILITIES									
Facility Code and Name			*Type of Unit*		*UNIT RATE (NC)*				
3. OTHER COST ELEMENTS									
Standard ESA type		*According to normal company type*			*OVERHEAD %*				
3.1 - 3.10	Various Other Direct Cost Elements								
GENERAL EXPENSES									
According to ESA type		*According to normal company type*	*Applicable on cost element no.*		*OVERHEAD %*				
5. General & Administration expenses									
6. Research & Development expenses									
7. Other (specify)									

State whether the proposed rates are audited/agreed by ESA or a National Audit Authority (e.g. MoD)

- PSS forms are designed to allow for all company cost allocation methodologies that may exist across all member states and indeed, within them.
- But not all rate and overhead elements need apply. In our example we cover all expenses in one average company gross hourly rate.

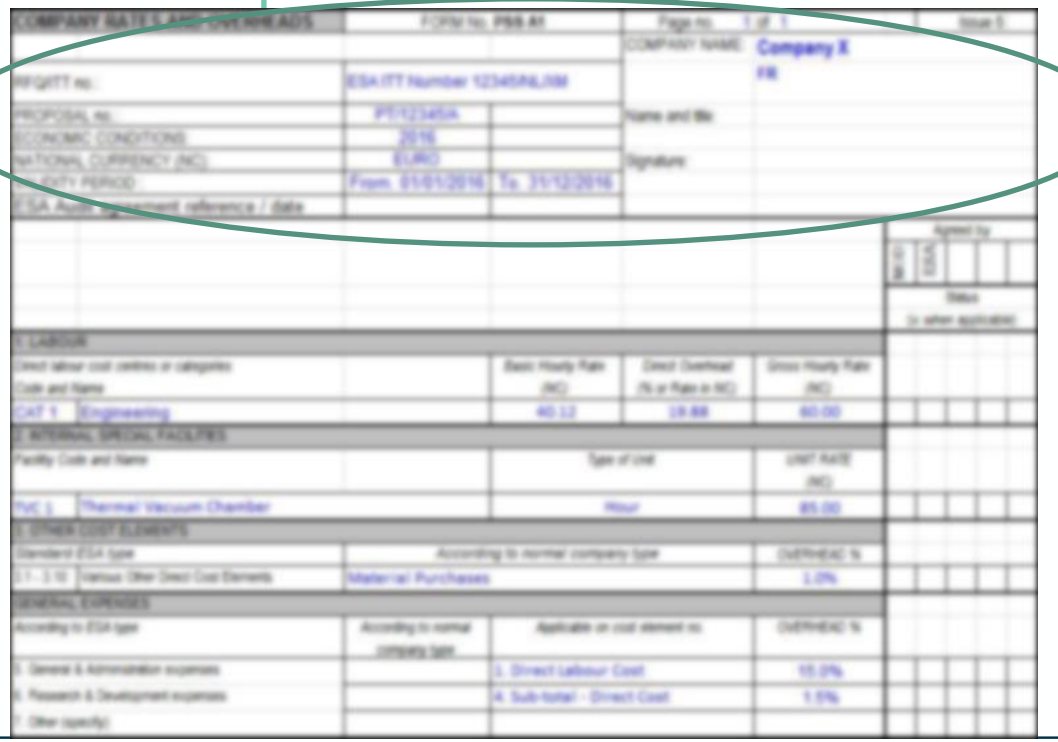
PSS A1 - Header

COMPANY RATES AND OVERHEADS	FORM No. **PSS A1**		Page no. 1 of 1	Issue 5
			COMPANY NAME:	**Company X**
RFQ/ITT no.:	ESA ITT Number 12345/NL/XM			**FR**
PROPOSAL no.:	PT/12345/A		Name and title:	
ECONOMIC CONDITIONS:	2021			
NATIONAL CURRENCY (NC):	EURO		Signature:	
VALIDITY PERIOD :	From. 01/01/2021	To. 31/12/2021		
ESA Audit agreement reference / date				

Details identifying the Economic Conditions & related cost rates

Rates representative of your annual budget/forecast (or latest P&L) expenses and excluding profit, are stated in the PSS A1, along with the header details identifying the Economic Conditions of the tender and the applicable cost rates. They may, or may not, be agreed rates.

In any presentation of the cost structure, the rates applied must not lead to a double counting of the expenses, covered by the rates calculation, shown on slide 10.

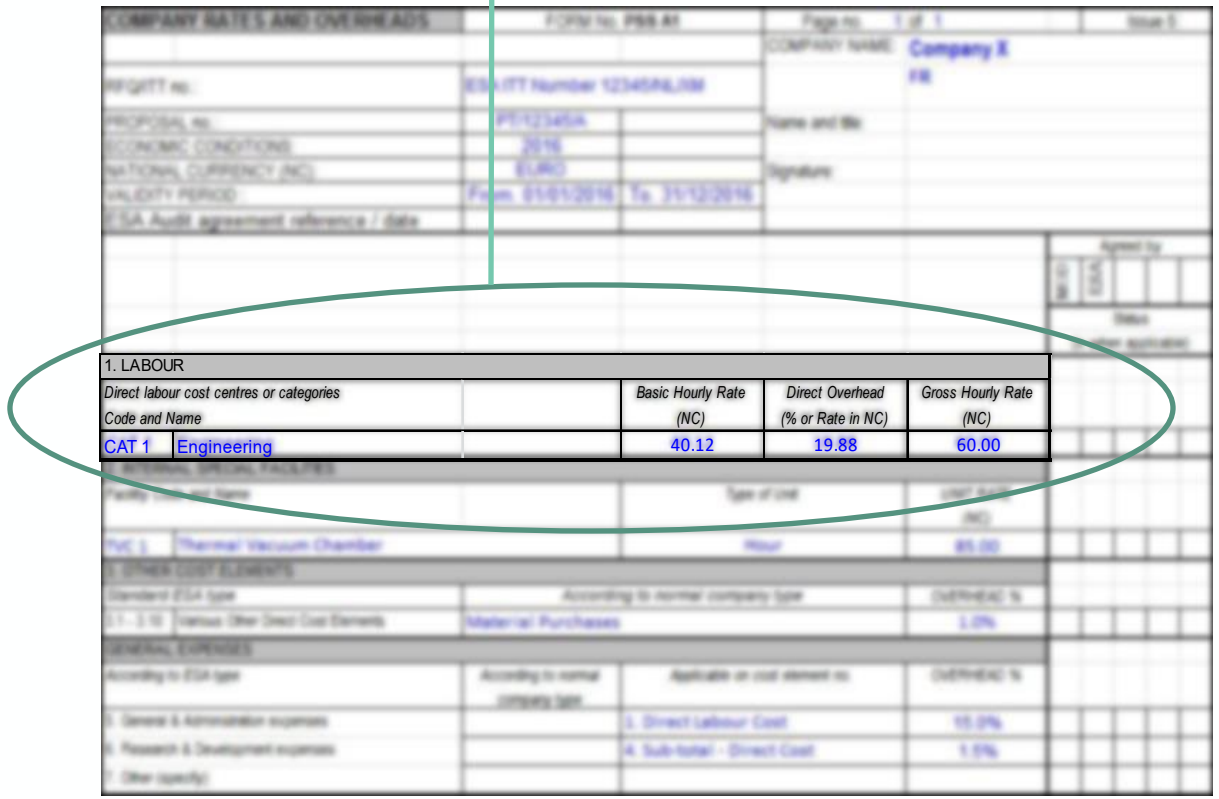


PSS A1 – Labour & Direct Overhead

1. LABOUR				
Direct labour cost centres or categories *Code and Name*		*Basic Hourly Rate (NC)*	*Direct Overhead (% or Rate in NC)*	*Gross Hourly Rate (NC)*
CAT 1	Engineering	40.12	19.88	60.00

Simple company - one average Gross Hourly Rate

In our simple example, all direct labour and all indirect expenses are covered in one average company hourly rate.



PSS A1 – Internal Special Facilities (ISF)

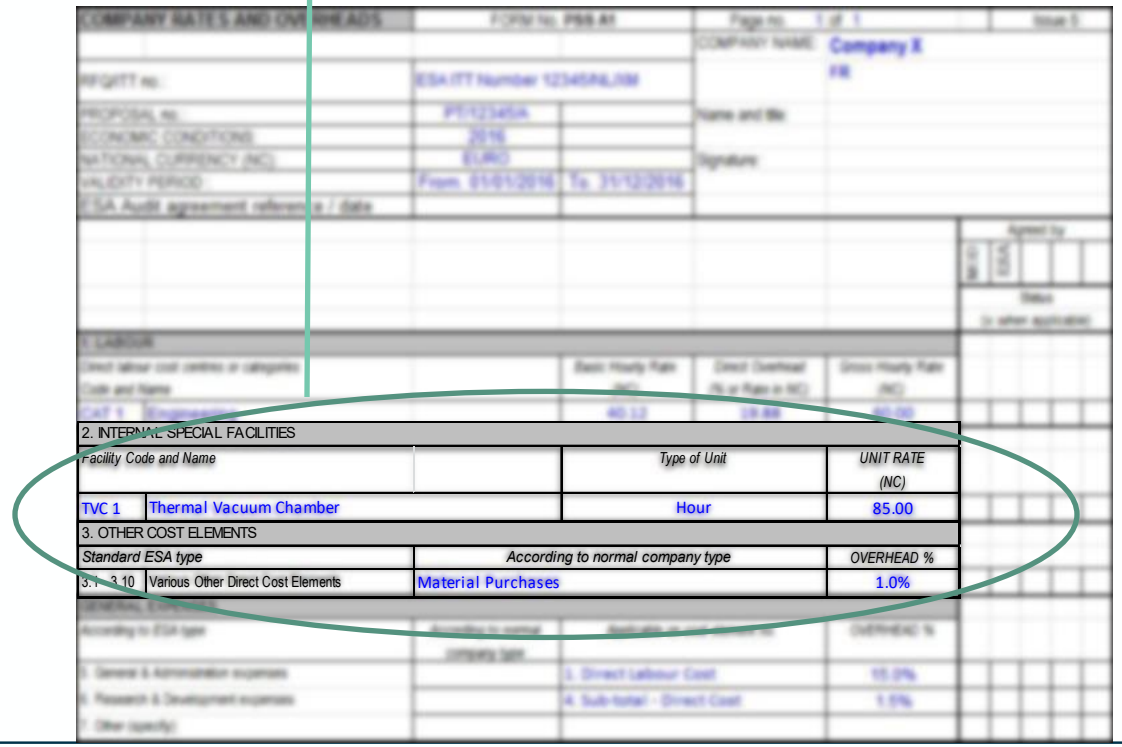
2. INTERNAL SPECIAL FACILITIES			
Facility Code and Name		*Type of Unit*	*UNIT RATE (NC)*
TVC 1	Thermal Vacuum Chamber	Hour	85.00
3. OTHER COST ELEMENTS			
Standard ESA type		*According to normal company type*	*OVERHEAD %*
3.1 - 3.10	Various Other Direct Cost Elements	Material Purchases	1.0%

Facility Unit Rates

% on other cost elements

- If all expenses are covered with one average company hourly rate, as shown in slide 7, the separate overhead elements shown here, cannot be applicable in our example, since this would imply more than 100% of expenses are covered.

- However, in more complex cost rate structures there may be rates for the utilisation of special facilities e.g. Vacuum Chambers, Clean Rooms, Vibration Tables, Wind Tunnels etc. and maybe direct overhead percentages on some other direct cost elements (eg. Procurement, Material handling etc).



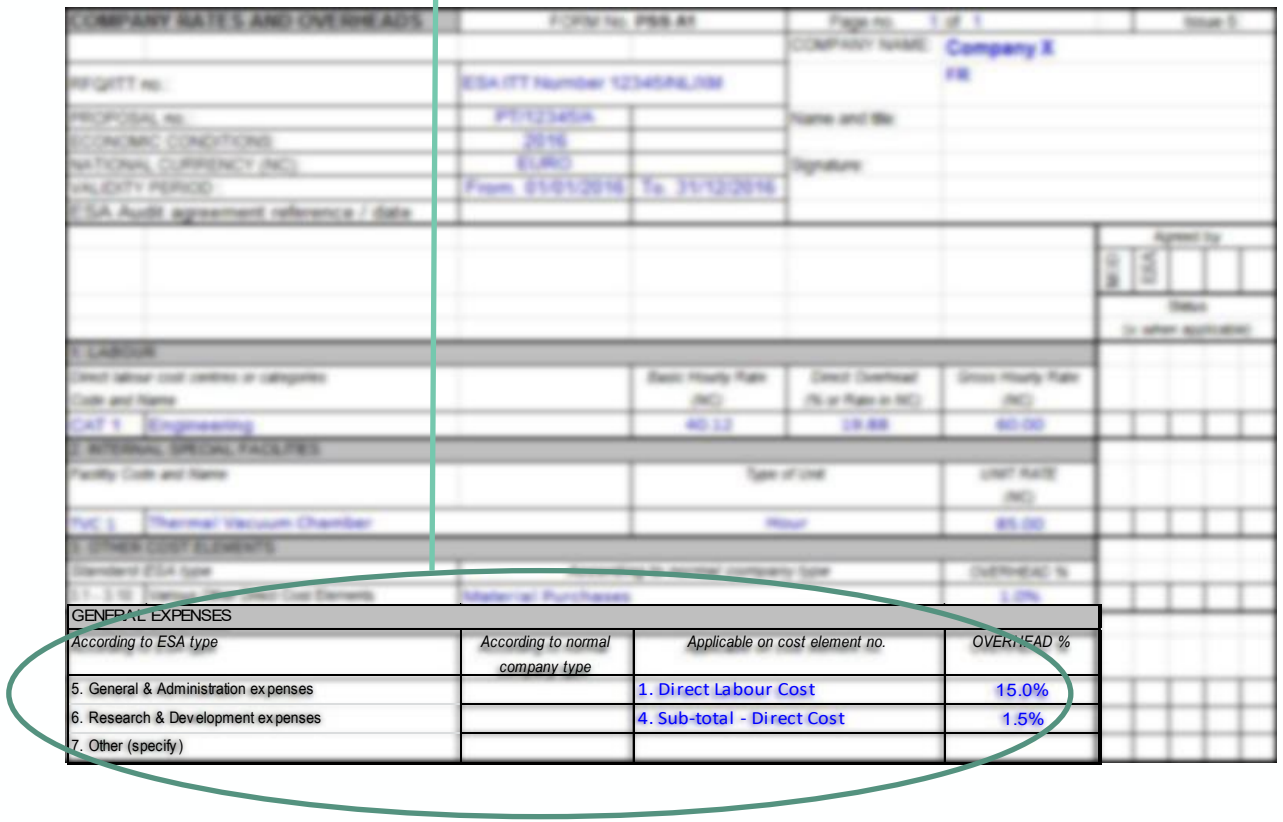
PSS A1 – General Expenses

GENERAL EXPENSES			
According to ESA type	*According to normal company type*	*Applicable on cost element no.*	*OVERHEAD %*
5. General & Administration expenses		1. Direct Labour Cost	15.0%
6. Research & Development expenses		4. Sub-total - Direct Cost	1.5%
7. Other (specify)			

In some companies a further breakdown of the cost structure may identify costs to be covered by a General & Administration overhead %

A company may identify a % to cover costs incurred funding their own R&D

As mentioned before, in our example separate percentages to identify G&A and R&D are not required, since ALL expenses are covered in one average company hourly rate



4. PSSA2 – Company Price Breakdown

PSS A2 – Header

The PSS forms have a descriptive header, and a body covering cost and price details.

In the header for the PSS A2 (the main summary price form) you will recognise that several elements were already included on the PSS A1.

COMPANY PRICE BREAKDOWN FORM				*Form No.* ***PSS A2***	Page no. 1 of 1	**Issue 5**
RFQ/ITT No.:	**ESA ITT Number 12345/NL/XM**			**COMPANY**		
Proposal/Tender No.:	**PT/12345/A**			Name:	**Company X**	
Type of Price:	**FFP**			Country:	**FR**	
Economic Condition:	**2021**					
National Currency (NC):	**EURO**			Representative		
Exchange Rate (X):	1 EURO =	**1.00000**	EURO	Name and Title:		
Contractual Phase:				Signature:		
Project/Work Package(s):	**Total**					

PSS A2 – Header, Price Type/Exchange Rate

- Although ESA contracts are placed in Euro, all proposals are required to show the bidders national currency, where necessary converted to Euro at an exchange rate, which is to be justified in the proposal text (eg. if the duration of the contract is 2 years, the average exchange of the currency over the last two years as published at the ECB (European Central Bank) could be a reasonable value).

- When there is a requirement for a Fixed price Contract with price variation (FP+V), the exchange rate must reflect the economic conditions stated in the ITT. The applicable exchange rate can be found in the Sogeti publication of National Price & Salary Statistics found on ESA-STAR (see slide 4).

ESA/REG/002, rev.3 Annex II

Specific to the ITT

National Currency e.g. Pounds Sterling

ESA/REG/001, rev.5 Annex 4

COMPANY PRICE BREAKDOWN FORM

RFQ/ITT No.:	ESA ITT Number 12345/NL/XM		
Proposal/Tender No.:	PT/12345/A		
Type of Price:	**FP+V**		
Economic Condition:	**Jul-18**		
National Currency (NC):	**GBP**		
Exchange Rate (X):	1 EURO =	**0.78830**	GBP
Project/Work Package(s):	Total		

PSS A2 – Contractual Phase/ Subcontractors

If the contract foresees a phased approach, PSS forms should be produced for each Contractual Phase.

If there are Sub-Contractors, PSS forms should be produced for each Subcontractor.

Finally the Project/Work Package description is the last identifying detail.

For example;

Phase A: Study and Analysis
B: Definition
C/D: Design & Development
E: Operations

Phase can be left blank when n/a.

Description of project and/or work package for which this form is summarising the cost.

COMPANY PRICE BREAKDOWN FORM		Form No. PSS A2		Page no. 1 of 1	Issue 5
RFQ/ITT No.:	ESA ITT Number 12345/NL/XM			COMPANY	
Proposal/Tender No.:	PT/12345/A			Name:	Company X
Type of Price:	FFP			Country:	FR
Economic Condition:	2016				
National Currency (NC):	EURO			Representative	
Exchange Rate (X):	1 EURO =	1.00000	EURO	Name and Title:	
Contractual Phase:					
Project/Work Package(s):	Total				

PSS A2 – Cost and Price Summary

	Cost / Price Data						TOTAL (NC)	TOTAL (EURO)
	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*			
CAT 1	Engineering	25.0	1,620	40,500	60.00		2,430,000	2,430,000
CAT2	Manufacturing							
1	Total Direct Labour Hours and Cost	*25.0*		*40500.0*		**A**	*2,430,000*	***2,430,000***
	INTERNAL SPECIAL FACILITIES							
Code	*Description*		*Type of unit*	*No. of units*	*Unit rates in NC*			
2	*Total Internal Special Facilities Cost*					**B**		
	OTHER DIRECT COST ELEMENTS	*Base amounts in NC*	*+ OH %*	*OH amounts in NC*				
3.1 - 3.10	Various ODC	230,000					230,000	230,000
3	*Total Other Direct Cost*	*230,000.00*				**C**	*230,000*	*230,000*
4	**SUB-TOTAL DIRECT COST**				**(A+B+C)**	**D**	**2,660,000**	**2,660,000**
	GENERAL EXPENSES	*Cost items to which % applies*		*Base Amount in NC*	*OH %*			
5	General & Administration Expenses					**E**		
6	Research & Development Expenses					**F**		
7	Other					**G**		
8	**TOTAL COMPANY COST**				**D+(E+F+G)**	**H**	**2,660,000**	**2,660,000**
		Cost items to which % applies		*Base Amount in NC*	*%*			
9	PROFIT	Line 8 (H)		2,660,000.0	8.0%	**I**	**212,800**	**212,800**
10	Cost Without Additional Charge					**J**		
11	Financial Provision For Escalation					**K**		
12	**TOTAL COMPANY PRICE**				**(H+I+J+K)**	**L**	**2,872,800**	**2,872,800**
13	Total Sub-Contractor Price					**M**	500,000	500,000
14	Reduction For Company Contribution					**N**		
15	**TOTAL PRICE FOR ESA**				**(L+M-N)**		**3,372,800**	**3,372,800**

The PSS-A2 is used to summarise the Total Price.

Separate forms by Work Package may be presented to support the total PSS-A2, although the PSS-A8 should suffice.

The labour categories and rates should be those indicated already in PSSA1

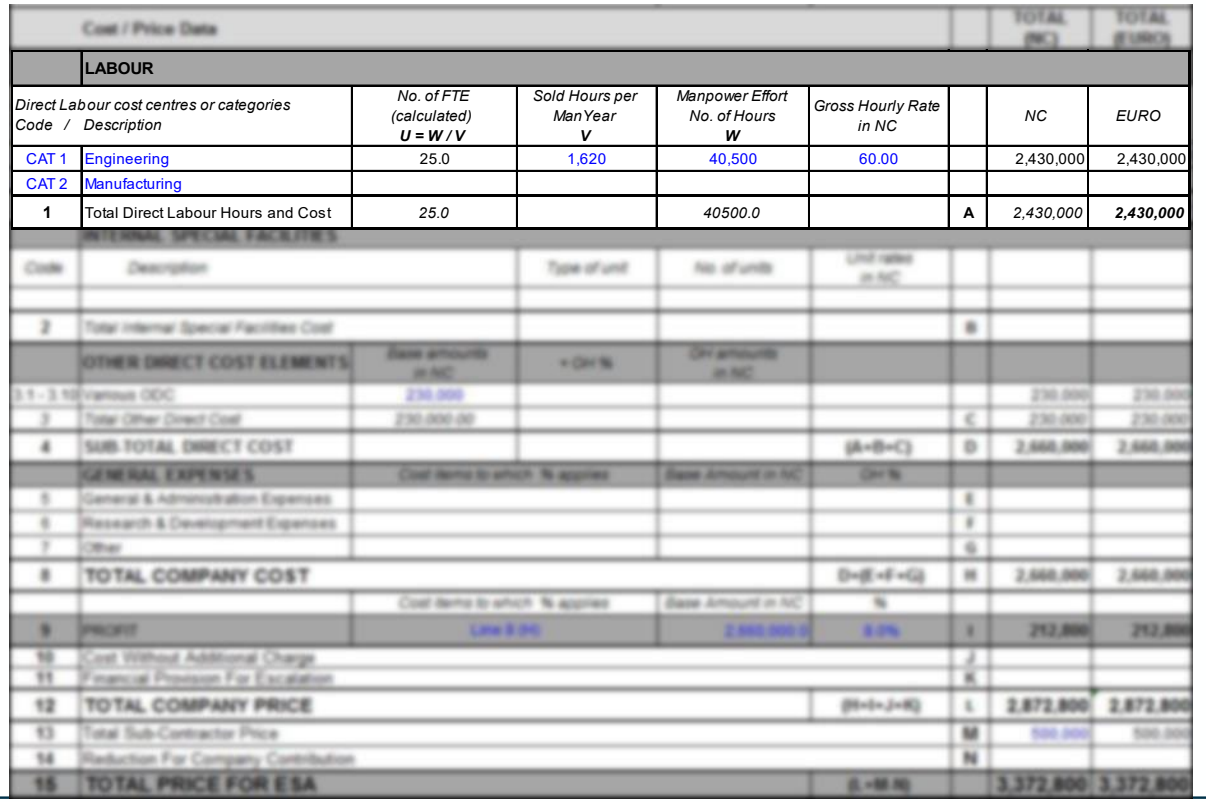
PSS A2 – Direct Labour Hours & Cost

	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*		*NC*	*EURO*
CAT 1	Engineering	25.0	1,620	40,500	60.00		2,430,000	2,430,000
CAT 2	Manufacturing							
1	Total Direct Labour Hours and Cost	*25.0*		*40500.0*		**A**	*2,430,000*	***2,430,000***

LABOUR

Line 1 costs the manpower effort required at the gross hourly rate, which in our example, covers all direct labour AND all indirect costs, so the other overhead categories on this PSS-A2 are not applicable.

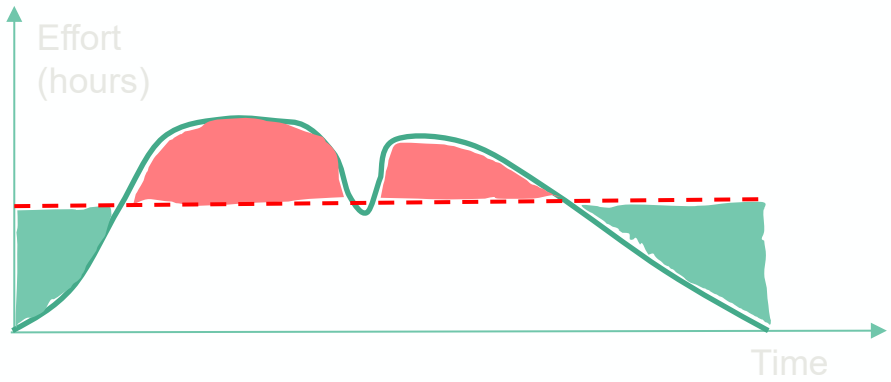
For analysis purposes the average sold hours per man year used in the rates calculation, is entered here in order to derive the number of full time equivalent heads that are assigned to this activity.



Labour Hours – considerations

Labour hours per category/rate need to be indicated for each Work Package.

Labour hours are linked to the effort required to complete the work and achieve the milestones according to agreed/required schedule.



- Hours per period (see PSS-A10) shall be **realistic**;
- Charged hours per person shall be in line with the assumptions used for the rates calculation (i.e. Sellable Hours);
- Bidders shall ensure to be able to deliver the declared hours. Project hours are expected to be recorded in **timesheets**.

Labour Hours – Available vs. Sellable

Sellable hours vs. Available hours

Typically, assuming 40 hrs/week ie. 8 hours per day

Available Work Hours Analysis	Days	Hours
Number of Work Hours per Week		**40**
Number of Work Hours per Day		**8**
1 year	365	2920
- Weekends	-104	-832
- Public Holidays	-10	-80
- Annual leave	-25	-190
Theoretical Available Work Hours	**226**	**1808**
- Absences (eg. Sickness)	-9	-72
+ Overtime	5	40
Average 'Worked Hours' Available per FTE	**222**	**1776**

Average Availability

Timesheet	Days	Hours
1 year (Availability)	222	1776
- Administration & Training	-8	-64
- Management	-6.5	-52
- Internal projects / R&D	-5	-40
Time on Projects	**202.5**	**1620**

Average Sellable Hours

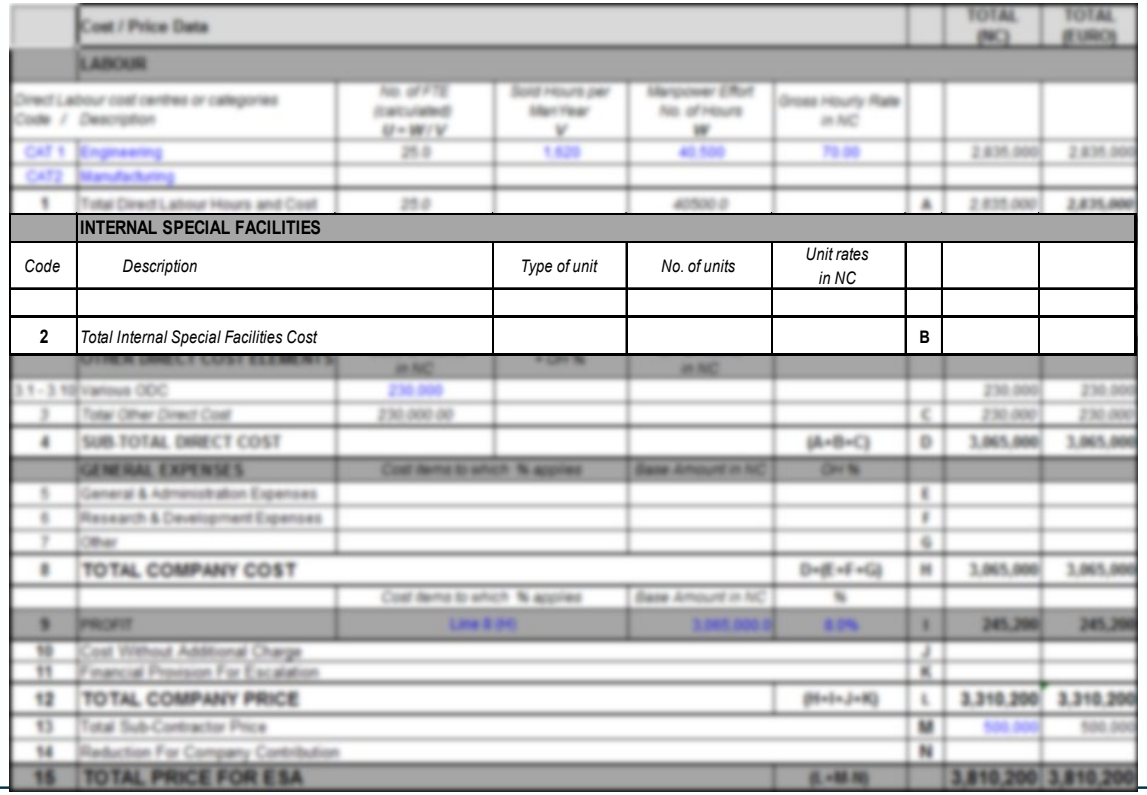
PSS A2 – Internal Special Facilities (ISF)

	INTERNAL SPECIAL FACILITIES						
Code	*Description*	*Type of unit*	*No. of units*	*Unit rates in NC*			
2	*Total Internal Special Facilities Cost*				**B**		

INTERNAL SPECIAL

FACILITIES

Line 2 is rarely used in small/medium sized companies, but in more complex cost rate structures there may be rates for the utilisation of special facilities e.g. Vacuum Chambers, Clean Rooms, Vibration Tables, Wind Tunnels etc.



Internal Special Facility (ISF) rates – Not so common in SME

Special cost centres that attract a total cost relatively large:

Direct ownership and operating costs

- Asset depreciation
- Electricity/Gas consumption
- Consumables
- Maintenance
- Dedicated operators
- Accommodation (surface and services)
- Management & Administration

Need to define the *recovery base [units]*

- Operating time (hours/days)
- Occupation (square meters)
- Throughput (datarate/nr of cycles/…)

Utilization = sold units per year

+ When ISF rates are established, their cost is allocated according to the utilization and excluded from the Overheads.

- Utilization level needs to be sufficient to generate reasonable rates. There is a risk of under-recovery if insufficient units are sold.

ISF Costs – considerations

History/experience shows that bidders with no-audited rates sometimes either **misunderstand** or **misuse** this section.

- The charged costs MUST be excluded from other rates and overheads.
- Operating costs of these facilities MUST be eligible (GCC Annex I).
- Charged units MUST be correlated to the actual work and schedule.
- Charging such facilities shall be normal practice and the contractor is expected to record the sold units in adequate logsheets.

Note: ISF rates are typically used in larger companies where the major cost driver is the cost of the facility and its operation, rather than the man hours associated with using it.

PSS A2 – Other Direct Cost (ODC) Elements

	OTHER DIRECT COST ELEMENTS	Base amounts in NC	+ OH %	OH amounts in NC				
3.1 - 3.10	Various ODC	230,000					230,000	230,000
3	*Total Other Direct Cost*	*230,000.00*				**C**	*230,000*	*230,000*
4	**SUB-TOTAL DIRECT COST**				**(A+B+C)**	**D**	**3,065,000**	**3,065,000**

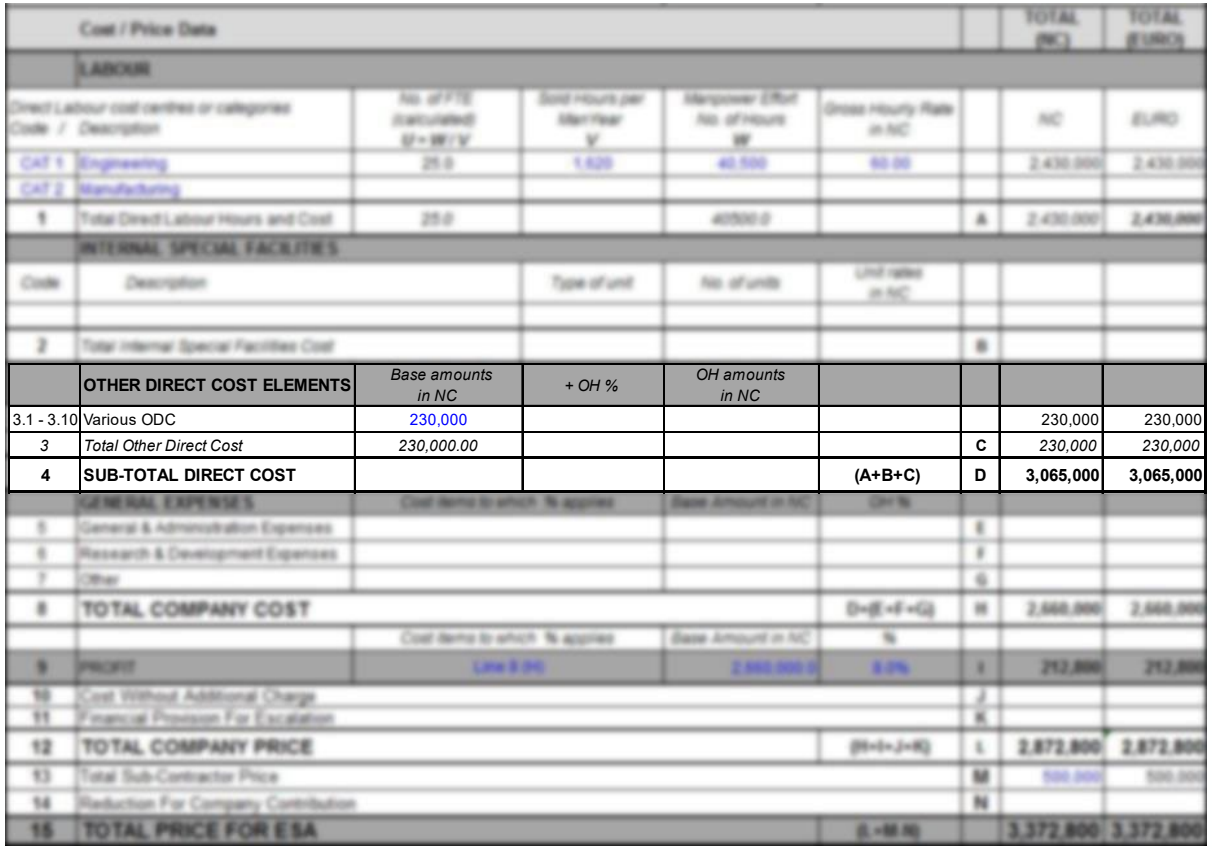
OTHER DIRECT COST ELEMENTS

Line 3 indicates the direct costs associated with delivering the required work.

In more complex cost rate structures, there may be direct overhead percentages on some other direct cost elements, but not in our simple example where all expenses are covered by one average company hourly rate.

MUST detail all the ODC expenses in EXHIBIT A

Bidders must be able to provide details of the estimation of such costs, when required. Ideally quotations from suppliers.



Other Direct Cost – considerations

- Bidders must be able to provide details of the estimation of such costs, when required. Ideally quotations from suppliers.

Large procurements should either

- Be treated as sub-contracts, if significant development and risk is involved; or
- Reported as CWAC (Cost Without Additional Charge).

The assessment of 'large' is left to the TEB.

ODC - examples

3.1 to 3.4 Materials

Raw materials, mechanical parts, semi-finished products, electric and electronic components. (Also included here is general production material bought for stock which is charged to the project based on the amount withdrawn from stock).

3.5 HIREL Parts

For expenditures related to “High Reliability” (HIREL) parts (a.k.a. EEE Parts) used for space systems, the following special provisions shall apply:

a) If the HIREL parts are procured by the tenderer for his own part of the work, the usual overhead may be used

b) If the HIREL parts are procured by a third party (i.e. Agent, Prime Contractor, ESA), the overheads shall be limited to those overhead activities which are carried out by the tenderer themselves.

The overheads on HIREL parts shall only be applicable to the vendor price and shall not be applicable to any Agent charges. Overheads on Agents’ services, if applicable, shall be quoted separately under External Services or as a Cost Without Additional Charge. Details of such procurements are given (if requested) in PSS-A40.

3.6 External Major Products

External Major Products are defined as fully manufactured items such as assemblies, devices, modules etc., which are normally produced for other customers by the tenderer or by another manufacturer and which are intended to be fitted readily, without major processing (machining, modifications, etc.), into the deliverable items, or constitute as such a deliverable item by itself. Participating companies supplying such items are not Work Package responsible.

3.7 External Services

External Services are defined as services to be rendered by a third party, such as hire of facilities, computing/analysis services, manpower services including consultancies, foundries (ASICs, MMICs, etc), plating of parts, services for procurement of HIREL parts etc. Participating companies supplying such items are not Work Package responsible.

Consultants and ad-hoc specialized labour support can be charged as External Services.

Procurement/Material Handling Overhead – Not common for SME

In a complex structure, companies may have a Procurement or Material Handling overhead in order to allocate specific indirect costs (mainly labour) related to the procurement of external products, supplies or services needed for a contract or the procurement, management and handling (logistics) of materials (e.g. typically companies engaged in manufacturing activities)

Typical costs allocated to procurement or material handling overhead may include:

- Personnel/Services following up procurements or performing logistics operations etc. (purchase order management, placement of orders on the basis of standard documents, processing)
- Handling of goods received, stored and distributed.
- QA activities on incoming and outgoing materials/products
- Purchasing, General Procurement, Supply Chain management (not subco management !)
- Stock management, inventory, warehousing costs
- Obsolescence, Scrap
- Transport cost of incoming material (not shipping out products !)
- Custom duties / fees, Export control
- Materials related Facility Management, IT tools and support

E.g. A particular case is for High-Reliability parts (Hi-rel parts), such as EEE, for which it might be necessary to buy extra components and perform activities related to their acceptance/verification/qualification/calibration.

NOTE: This is not an extra overhead! – It simply is overhead cost from the overall indirect cost pool, being recovered in a different way (via a % on a base), rather than through the overhead hourly rate.

Procurement/Material Handling Overhead - Not common for SME

These overheads are established as a % allocation on the bare purchase cost of the supplies (*Base Amount*).

It is important to define a reliable base amount, then the calculation is simply:

OH% = indirect cost allocated / base amount *100

It is recommended to

- Refer the base amount to clear accounts of supplies, where there is no mix of supplies for which the overhead is applicable and not.
- The base amount should consider also the *stock change* (variation of supplies from previous years).
- The base amount should be calculated on the total average of the past 3 to 5 years and considering forecasts. It should be stable. (Often the procurement base is not always stable and may vary substantially over time!)
- Procurement base typically relates to items quoted in 3.1 – 3.5a, 3.6, 3.7 of the PSSA2

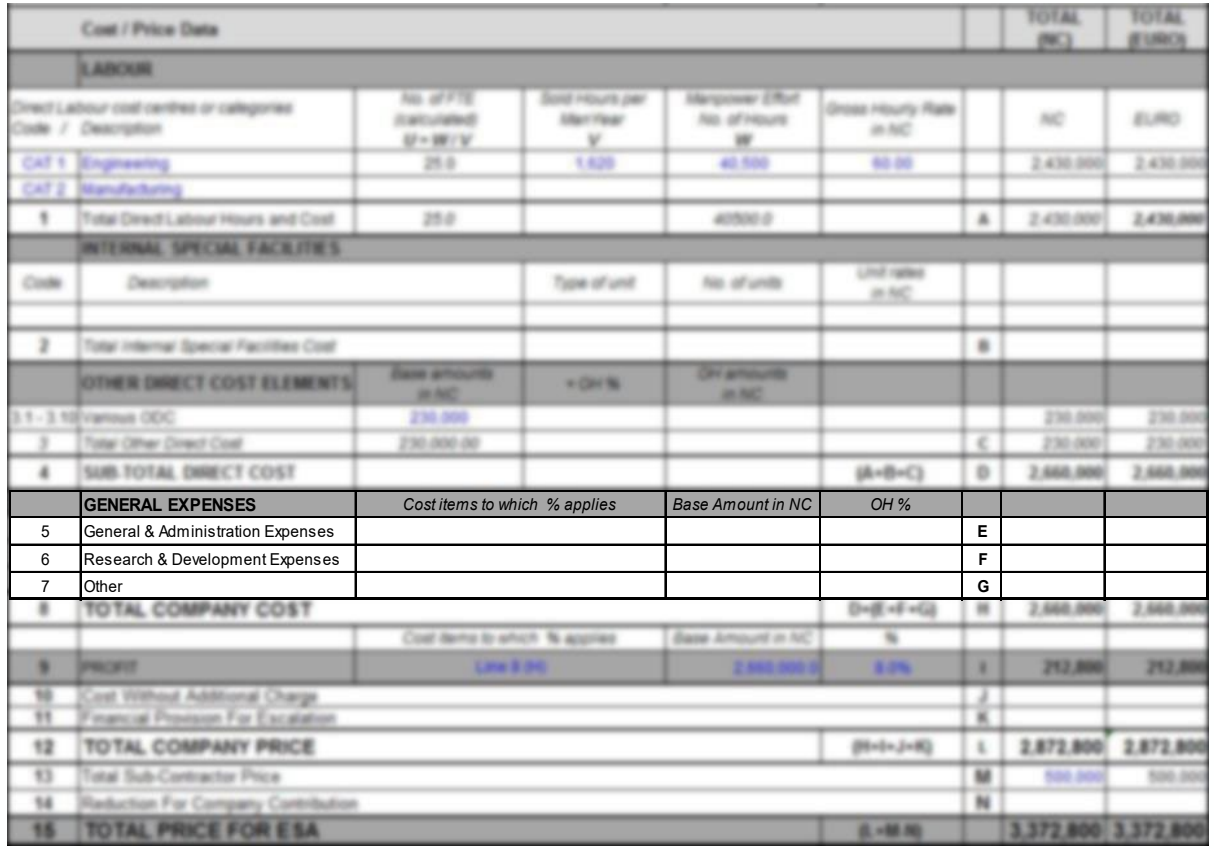
PSS A2 – General Expenses

	GENERAL EXPENSES	*Cost items to which % applies*	*Base Amount in NC*	*OH %*			
5	General & Administration Expenses				**E**		
6	Research & Development Expenses				**F**		
7	Other				**G**		

GENERAL EXPENSES

Lines 5, 6 and 7 are only used for the allocation of indirect expenses, NOT already covered by the gross hourly rate applied in line 1.

In our simple example all expenses are covered by one average company hourly rate, so no additional general expenses are applicable.



	Cost / Price Data						TOTAL (NC)	TOTAL (EURO)
	LABOUR							
Direct Labour cost centres or categories Code / Description		No. of FTE (calculated) V = W / Y	Total Hours per Man Year Y	Manpower Effort No. of Hours W	Gross Hourly Rate in NC		NC	EURO
CAT 1	Engineering	25.0	1,620	40,500	60.00		2,430,000	2,430,000
CAT 2	Manufacturing							
1	Total Direct Labour Hours and Cost	25.0		40500.0		A	2,430,000	2,430,000
	INTERNAL SPECIAL FACILITIES							
Code	Description		Type of unit	No. of units	Unit rates in NC			
2	Total Internal Special Facilities Cost					B		
	OTHER DIRECT COST ELEMENTS	Base amounts in NC	+ OH %	OH amounts in NC				
3.1 - 3.10	Various ODC	230,000					230,000	230,000
3	Total Other Direct Cost	230,000.00				C	230,000	230,000
4	SUB-TOTAL DIRECT COST				(A+B+C)	D	2,660,000	2,660,000
	GENERAL EXPENSES	*Cost items to which % applies*		*Base Amount in NC*	*OH %*			
5	General & Administration Expenses					**E**		
6	Research & Development Expenses					**F**		
7	Other					**G**		
8	TOTAL COMPANY COST				D+(E+F+G)	H	2,660,000	2,660,000
		Cost items to which % applies		Base Amount in NC	%			
9	PROFIT	Line 8 (H)		2,660,000.0	8.0%	I	212,800	212,800
10	Cost Without Additional Charge					J		
11	Financial Provision For Escalation					K		
12	TOTAL COMPANY PRICE				(H+I+J+K)	L	2,872,800	2,872,800
13	Total Sub-Contractor Price					M	500,000	500,000
14	Reduction For Company Contribution					N		
15	TOTAL PRICE FOR ESA				(L+M-N)		3,372,800	3,372,800

General & Administrative (G&A) Overhead

Used by only few, typically larger organisations.

Normally, particularly for SMEs, these costs would be already included in the general overhead hourly rate.

Costs allocated to a possible G&A OH, are for example:

- Proposal & Tender / Bidding pre-contract cost (cost prior to the effect date stated in the Contract) in anticipation of the award of the Contract or pursuant to its negotiation.
- Corporate fees, management fees, head office fees or shared services agreements;
- Management and Administration Functional Cost Centres;
- Other General Charges as defined by individual company.

The recovery base for the calculation of the G&A % should normally be the total Labour cost and Internal Special Facilities cost including the relevant overheads.

NOTE: This is not an extra overhead! – It simply is overhead cost being recovered in a different way (via a % on a base), rather than through the overhead hourly rate.

Company Own Funded Research & Development

(This is NOT work carried out on Funded R&D contracts awarded to the company by a paying customer)

- **There are 2 main types of Own Funded R&D**,
  - Basic & Applied Research (General R&D), proof of concept, the “R” out of R&D and
  - Product Development (Specific), the “D”
- **Basic & Applied Research (general R&D):**
  - Planned investigation undertaken with the intent of gaining new scientific or technical knowledge and understanding. Such investigation may, or may not be directed towards a specific practical aim or application (ie. proof of concept).
  - ESA’s contribution to a company’s General Research and Development expenses is limited in accordance with Annex 1, Part III, Clause 4.2y to the General Clauses and Conditions for ESA contracts, ESA/REG/002, rev.3. **This limitation is 5% for Large System Integrators and 7.5% for other companies, based on the total Labour cost, Internal Special Facilities cost and Material cost including the relevant overheads.**

Company Own Funded Research & Development

(This is NOT work carried out on Funded R&D contracts awarded to the company by a paying customer)

- **Product development (PD) (and/or Improvement);**
  - the next stage of R&D. It's the "D" out of R&D. PD is specific to a task, not like "General R&D, previously described
  - PD is a systematic program of work going beyond basic and applied research, which is directed towards the creation of new or improved products, system components, materials, devices, or services, and/or to install new processes or systems prior to the commencement of commercial production or commercial applications, and/or to improving substantially those already produced or installed.
  - The hours/costs associated with Non-Space related PD are considered as direct sellable hours/direct costs deemed to be recoverable against future sales of the product/service developed and therefore not considered an allowable indirect activity to be included in the overheads.
  - Hours spent on Co-Funded Contracts are considered as direct sellable hours/direct costs deemed to be recoverable against future sales of the product/service developed and therefore not considered an allowable indirect activity to be included in the overheads.

R&D Overhead

In some companies, the cost for general research activities is recovered via a Research and Development overhead. Typically for SMEs, general research cost where applicable should be recovered via the general overhead rather than a separate overhead rate.

According to ESA rules, for SMEs general R&D cost allowable in rates is limited to 7.5% of the Total Cost Base.

During an audit, it would be verified that:

1. The costs was actually incurred;
2. The cost actually qualifies as general R&D as per ESA rules;
3. The cost is reasonable and within the limits.

The base for R&D includes Labour cost, Internal Special Facilities cost, Material cost (3-3.5a) and including the relevant overheads (G&A). The cost of the R&D activity itself must, of course, be excluded from the base.

NOTE: This is not an extra overhead! – It simply is overhead cost being recovered in a different way (via a % of a base), rather than through the overhead hourly rate.

PSS A2 – Profit/ Fee

		Cost items to which % applies	Base Amount in NC	%			
9	PROFIT	Line 8 (H)	2,660,000.0	8.0%	I	212,800	212,800

Refer to new profit policy on the ESA Learning Hub!

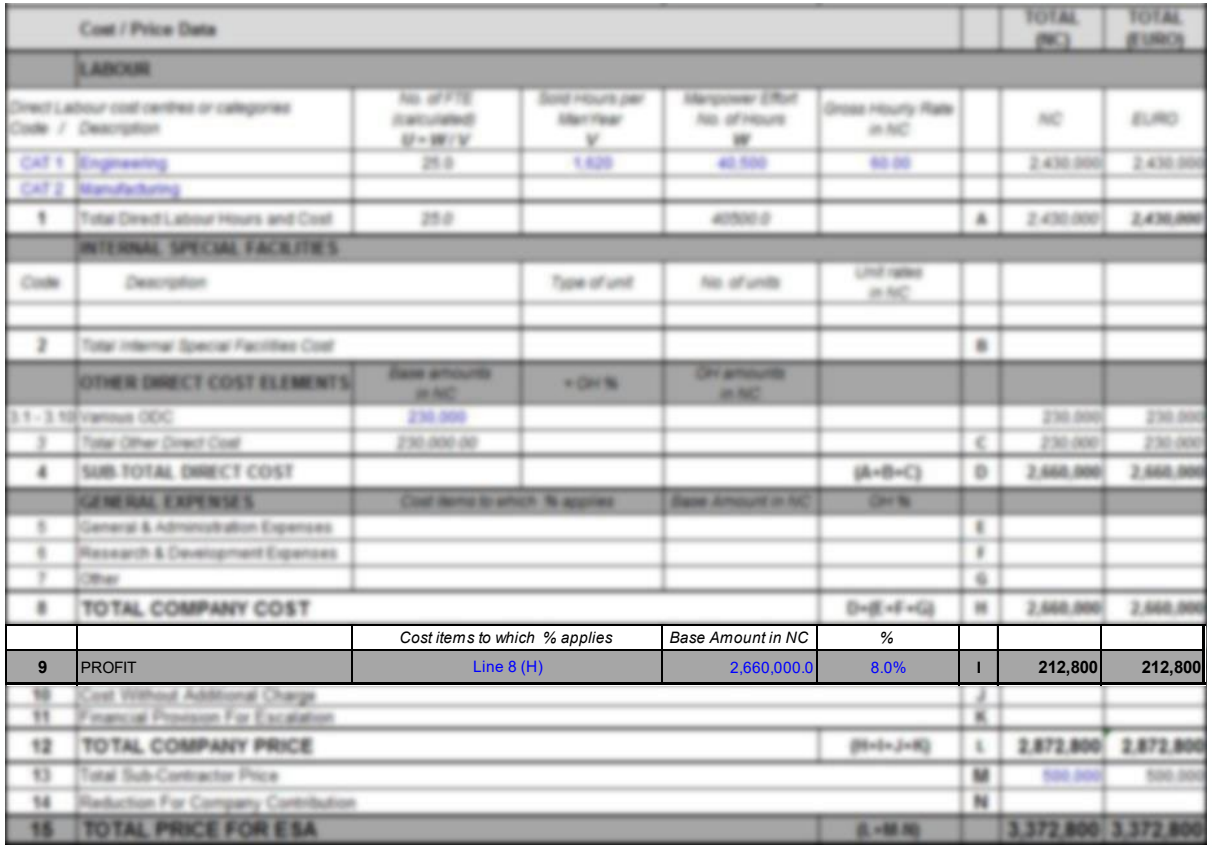
https://learninghub.esa.int/content/industry-information-webinar-about-esa%E2%80%99s-new-profit-policy-2023

PROFIT

The ITT will indicate the MAXIMUM allowable %, for the profit/fee, to be shown on line 9

Typical value is **now defined in ITT in %** of the total company cost (item 8 on PSS-A2).

In Co-funded contracts the allowable profit is 0%.



PSS A2 – Total Price for ESA

10	Cost Without Additional Charge		J		
11	Financial Provision For Escalation		K		
12	**TOTAL COMPANY PRICE**	(H+I+J+K)	L	**2,872,800**	**2,872,800**
13	Total Sub-Contractor Price		M	500,000	500,000
14	Reduction For Company Contribution		N		
15	**TOTAL PRICE FOR ESA**	(L+M-N)		**3,372,800**	**3,372,800**

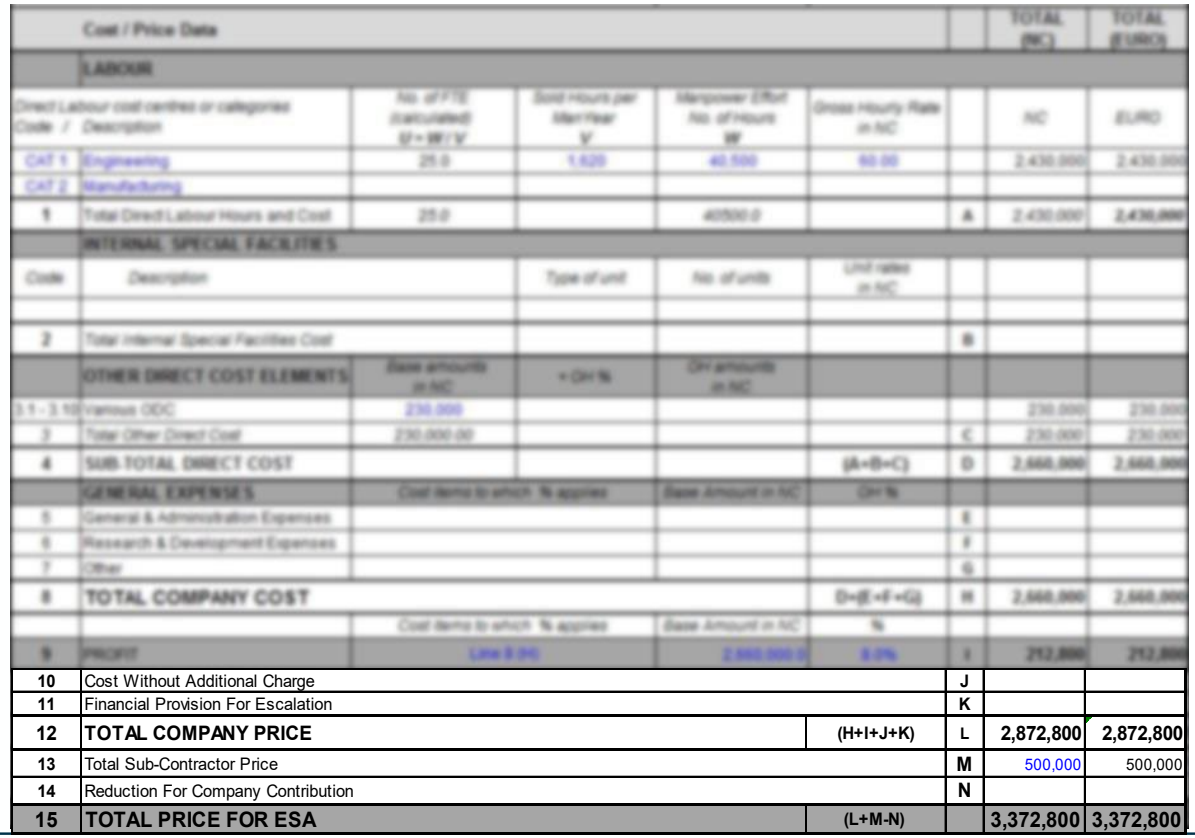
Line 10 Cost Without Additional Charge - consider this a special item/deliverable, for which the company does not wish to, or is not allowed to by contractual conditions to add any additional charge. In reality, not many proposals will use this line.

Most proposals will be priced at a specific point in time (Economic Condition). Line 11 allows for a financial provision for escalation, for work carried out in years beyond the pricing conditions.

Line 13 shows any Subcontractors Price. No overhead, or profit is chargeable on top of this price, which should be supported by an accompanying Subcontractor PSS-A2.

Line 14 is for discount (detailed in Exhibit A).

Line 15 is the Total Price for ESA.



Cost Without Additional Charge - considerations

8	**TOTAL COMPANY COST**		
		Cost items to which % applies	*Base Amount in N*
9	PROFIT		0
10	COST WITHOUT ADDITIONAL CHARGE		
11	FINANCIAL PROVISION FOR ESCALATION		
12	**TOTAL COMPANY PRICE**		
13	TOTAL SUB-CONTRACTORS PRICE		
14	REDUCTION for COMPANY CONTRIBUTION		
15	**TOTAL PRICE FOR ESA**		

These charges must be detailed in Exhibit A.

The 'Cost Without Additional Charge' (CWAC), item 10 of PSS-A2, collects different types of provisions:

- Cost which is not quoted in the work package price;
- Expenses for which overheads and profit are not applicable;
- Expenses for which the company decides not to charge overheads and profit;
- Pass-Through costs (eg. ESA requests to rent a special facility and pays the bill directly- no profit);
- Cost-Risk contingency budget;
- Other (incl. rounding).

Financial Provision for Escalation - considerations

A Financial Provision for escalation is a contingency to cover a foreseen inflation of prices.

Only Applicable:

a) in the case of **Firm** and Fixed Price (FFP), the bidder is allowed to input a provision for the escalation of the cost …

b) if the evolution of the economic conditions in the period relevant to the execution of the work are estimated to lead to significant Price level differences.

ASSUMING that rates and direct cost refer to the indicated economic conditions.

Such provision MUST be justified with all details, including the cost elements and their foreseen variations (in the Financial Proposal and can include the reference to the justification in Exhibit A).

NOTE: In case of FP+V (Fixed Price + variation), the bidder shall propose a PVF (**Price Variation Formula**) to be reported in the contract.

P = P0 * (10% + cL * L1/L0 + cM * M1/M0)
where cL ~ % Labour cost and cM ~ % ODC cost (and 10% is fixed)
L0, L1, M0, M1 are SOGETI indices … see ESA-STAR.

Definition of subcontractor

- Any company responsible for one or more Work Packages (WP) shall be treated as a Subcontractor. A Subcontractor is NOT 3.6 (External Major Products) nor 3.7 (External Services)!

- A sub-contract is a contract to be entered into by the tenderer with a third party for a clearly defined task related to the tenderer's offer and which is **sufficiently non-standard to require specifications/task descriptions to be generated specifically**. It also excludes those elements which fall under a definition contained under *Other Costs Elements*. It is thus distinguished from a Purchase Order, which is placed on the basis of standard documents. A sub-contractor can themselves place sub-contracts.

- A company is not allowed to charge any overhead nor profit on its subcontractors cost.

ESA/REG/001

Subcontractor	An economic operator who is under contract to a contractor of the Agency to provide supplies or services in support of a contract placed by the Agency.

ESA/ REG/002

10.4 Unless otherwise authorised by the Agency, the conditions of the sub-contracts shall secure the Agency's rights as provided for under the Contract. The conditions of the sub-contracts shall furthermore reflect the rights and obligations of each Subcontractor tailored to the Subcontractor's area of responsibility.

PSSA2 - Exhibit A

COMPANY PRICE BREAKDOWN FORM	EXHIBIT "A" TO PSS A2	Issue 5
	Page No.	No. of Pages
RFQ/ITT No.:	COMPANY NAME:	
Proposal/Tender No.:	Name and Title:	
National Currency:		
Contractual Phase	Signature	
Applicable to PSS-A2 elements: 3.1-3.4 - 3.6 - 3.7 - 3.10 - 10		
Project / Work Packages		

Cost El. No.	ITEM DESCRIPTION	Type of Price	Purchase Currency	Purchase Amount	Exchange rate 1 NC =	Amount in NC

- Very important for the justification of the price.
- Provides detail of the different cost items.

PSSA2 - Exhibit B

TRAVEL PLAN AND COST DETAIL		EXHIBIT "B" TO PSS-A2												Issue 1
RFQ/ITT No.:								Project:						
Proposal/Tender No.:								Company:						
Contractual Phase														
Economic Condition:								Type of Price:						
National Currency (NC)*:								Exchange (**X**): 1 EURO =			1	0		
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)	
												0	0	
												0	0	
												0	0	

Travel PLAN

- Estimate costs in accordance to company policies
- Travel cost = door to door transport (e.g. taxi + plane + rental car)
- Subsistence = daily allowance per person per day or typical expenses (meals, hotel, personal needs)

5. PSSA8, PSSA10, PSSA15.1

PSS A8 – Cost by Work Package

For the PSS A8, the cost/price data of the PSS A2, is simply repeated in more detail, that is, showing the summary Work Package breakdown.

COMPANY MANPOWER AND PRICE SUMMARY PER WP — Form no. **PSS A8** — Page 1 of 1 — Issue 5

ITT/RFQ:	ESA ITT Number 12345/NL/XM
Proposal/Tender No.:	PT/12345/A
Company Name:	Company X
Contractual Phase:	0
WBS-Level (Number and Title):	Total
Price Type:	FFP
Economic Conditions:	2016
National Currency (NC):	EURO
Exchange Rate: 1 EUR =	1.0000

		WP1	WP2	WP3	WP4	WP5	WP6	WP7	WP8	WP9	WP10	WP11	WP12	
WP Title / WP Number		1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	Total WBS-Level
Labour Hours per category	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours
Engineering	#	8,100	6,100	6,050	4,860	3,240	3,240	3,240	1,620	1,620	810	810	810	40,500
Total Labour Hours	#	8,100	6,100	6,050	4,860	3,240	3,240	3,240	1,620	1,620	810	810	810	39,690
1. Total Labour Cost	NC	486,000	366,000	363,000	291,600	194,400	194,400	194,400	97,200	97,200	48,600	48,600	48,600	2,430,000
2. Internal Special Facilities Cost	NC													0
3.1-3.10 Various ODC	NC	10,000	2,000	3,000	12,000	10,000	50,000	50,000	50,000	20,000	10,000	5,000	8,000	230,000
3. Total Other Costs (sum of above 3.x)	NC	10,000	2,000	3,000	12,000	10,000	50,000	50,000	50,000	20,000	10,000	5,000	8,000	230,000
4. Sub-Total Direct Cost	NC	496,000	368,000	366,000	303,600	204,400	244,400	244,400	147,200	117,200	58,600	53,600	56,600	2,660,000
5.- 7. General expenses	NC													0
8. Sub-Total Company Cost	NC	496,000	368,000	366,000	303,600	204,400	244,400	244,400	147,200	117,200	58,600	53,600	56,600	2,660,000
9. Profit Fee	NC	39,680	29,440	29,280	24,288	16,352	19,552	19,552	11,776	9,376	4,688	4,288	4,528	212,800
10. Cost without additional charge	NC												0	0
11. Financial Provision for escalation	NC												0	0
12. Total Company Price	NC	535,680	397,440	395,280	327,888	220,752	263,952	263,952	158,976	126,576	63,288	57,888	61,128	2,872,800
	EURO	535,680	397,440	395,280	327,888	220,752	263,952	263,952	158,976	126,576	63,288	57,888	61,128	2,872,800
13. Total Sub-Contractors Price	NC					150,000							350,000	500,000
	EURO	0	0	0	0	150,000	0	0	0	0	0	0	350,000	500,000
14. Reduction for Company contribution	NC													0
15. Total Price for ESA	NC	535,680	397,440	395,280	327,888	370,752	263,952	263,952	158,976	126,576	63,288	57,888	411,128	3,372,800
	EURO	535,680	397,440	395,280	327,888	370,752	263,952	263,952	158,976	126,576	63,288	57,888	411,128	3,372,800
														= PSS-A2

= PSS-A2 per Work Package

Note: WP structure to be aligned to the WBS

Total of all columns = PSS-A2

PSS A10 – Cost by Time Period

This time, for the PSS A10, the cost/price data of the PSS A2 is represented in line with the expected schedule of the project.

COMPANY MANPOWER AND COST PLAN					Form no. PSS A10							Page 1 of 1	Issue 5
ITT/RFQ:		ESA ITT Number 12345/I							Price Type:			FFP	
Proposal/Tender No.:		PT/12345/A							National Currency (NC):			EURO	
Company Name:		Company X							Exchange Rate: 1 EUR =			1.0000	
WBS-Level (Number and Title):		Total							Economic Conditions:			2016	
Time period expressed in:		month	month/quarter/year										
Time Period		1	2	3	4	5	6	7	8	9	10	11	12	Total
Start [MM-YY]		01-14	02-14	03-14	04-14	05-14	06-14	07-14	08-14	09-14	10-14	11-14	12-14	
End [MM-YY]		01-14	02-14	03-14	04-14	05-14	06-14	07-14	08-14	09-14	10-14	11-14	12-14	
Labour Hours per category														
Engineering	#	3,375	3,375	3,375	3,375	3,375	3,375	3,375	3,375	3,375	3,375	3,375	3,375	40,500
Total Direct Labour hours	#	3,375	3,375	3,375	3,375	3,375	3,375	3,375	3,375	3,375	3,375	3,375	3,375	37,125
1. Total Direct Labour Cost	NC	202,500	202,500	202,500	202,500	202,500	202,500	202,500	202,500	202,500	202,500	202,500	202,500	2,430,000
2. Internal Special Facilities Cost	NC													0
3.1-3.4 Material Costs	NC	60,000		70,000		100,000							0	230,000
3. Total Other Direct Costs (sum of above 3.x)	NC	60,000	0	70,000	0	100,000	0	0	0	0	0	0	0	230,000
4. Sub-Total Direct Cost	NC	262,500	202,500	272,500	202,500	302,500	202,500	202,500	202,500	202,500	202,500	202,500	202,500	2,660,000
5-7 General Expenses	NC													0
8. Sub-Total Company Cost	NC	262,500	202,500	272,500	202,500	302,500	202,500	202,500	202,500	202,500	202,500	202,500	202,500	2,660,000
9. Profit	NC	21,000	16,200	21,800	16,200	24,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	212,800
10. Cost without additional charge	NC												0	0
11. Financial Provision for escalation	NC	0	0	0	0	0	0	0	0	0	0	0	0	0
12. Total Company Price	NC	283,500	218,700	294,300	218,700	326,700	218,700	218,700	218,700	218,700	218,700	218,700	218,700	2,872,800
	EURO	283,500	218,700	294,300	218,700	326,700	218,700	218,700	218,700	218,700	218,700	218,700	218,700	2,872,800
13. Total Subcontractors Price	NC		50,000		50,000		50,000	150,000					200,000	500,000
	EURO	0	50,000	0	50,000	0	50,000	150,000	0	0	0	0	200,000	500,000
14. Reduction for Company Contribution	NC													0
15. Total Price for ESA	NC	283,500	268,700	294,300	268,700	326,700	268,700	368,700	218,700	218,700	218,700	218,700	418,700	3,372,800
	EURO	283,500	268,700	294,300	268,700	326,700	268,700	368,700	218,700	218,700	218,700	218,700	418,700	3,372,800
														= PSS-A2

= PSS-A2 per period

Total of all columns = PSS-A2 (and PSSA8)

PSS A15.1 – Milestone Payment Plan

The PSS A15.1 is used to establish the milestone payment plan and is presented in thousands of euro, irrespective of the national currency used in the proposal.

COMPANY PRICE PROJECTION vs. PAYMENT PLAN in THOUSANDS EURO				Form no. PSS A15.1						Page 1 of 1	Issue 5
ITT/RFQ:	ESA ITT Number 12345/NL/XM					Price Type:	FFP				
Proposal/Tender No.:	PT/12345/A					Economic Conditions:	2016				
Company Name:	Company X					National Currency (NC) (*):	KEURO				
WBS-Level (Number and Title):	Total					Exchange Rate (*): 1 EUR =	1.0000				
Time period expressed in:	month	month/quarter/year									

Period	1	2	3	4	5	6	7	8	9	10	11	12
Start [MM-YY]	01-14	02-14	03-14	04-14	05-14	06-14	07-14	08-14	09-14	10-14	11-14	12-14
End [MM-YY]	01-14	02-14	03-14	04-14	05-14	06-14	07-14	08-14	09-14	10-14	11-14	12-14
1. MILESTONES	**KO**		**PM1**		**PM2**		**PM3**		**PM4**			**Final Delivery**
2. EXPENDITURES PER PERIOD	284	269	294	269	327	269	369	219	219	219	219	419
CUMULATIVE EXPENDITURES	**284**	**552**	**847**	**1,115**	**1,442**	**1,711**	**2,079**	**2,298**	**2,517**	**2,735**	**2,954**	**3,373**
3. PAYMENT PLAN PER PERIOD	500		500		500		650		650			573
CUMULATIVE PAYMENTS	**500**	**500**	**1,000**	**1,000**	**1,500**	**1,500**	**2,150**	**2,150**	**2,800**	**2,800**	**2,800**	**3,373**
4. DEVIATION												
CUMULATIVE EXPENDITURES VS. PAYMENTS	**217**	**(52)**	**154**	**(115)**	**58**	**(211)**	**71**	**(148)**	**283**	**65**	**(154)**	**0**

Include Profit (and subco)

Does not include Advance Payments

The total expenditure and price, match that of the corresponding PSS A2, A8 and A10.

PSS A15.1 – Milestone Payment Plan

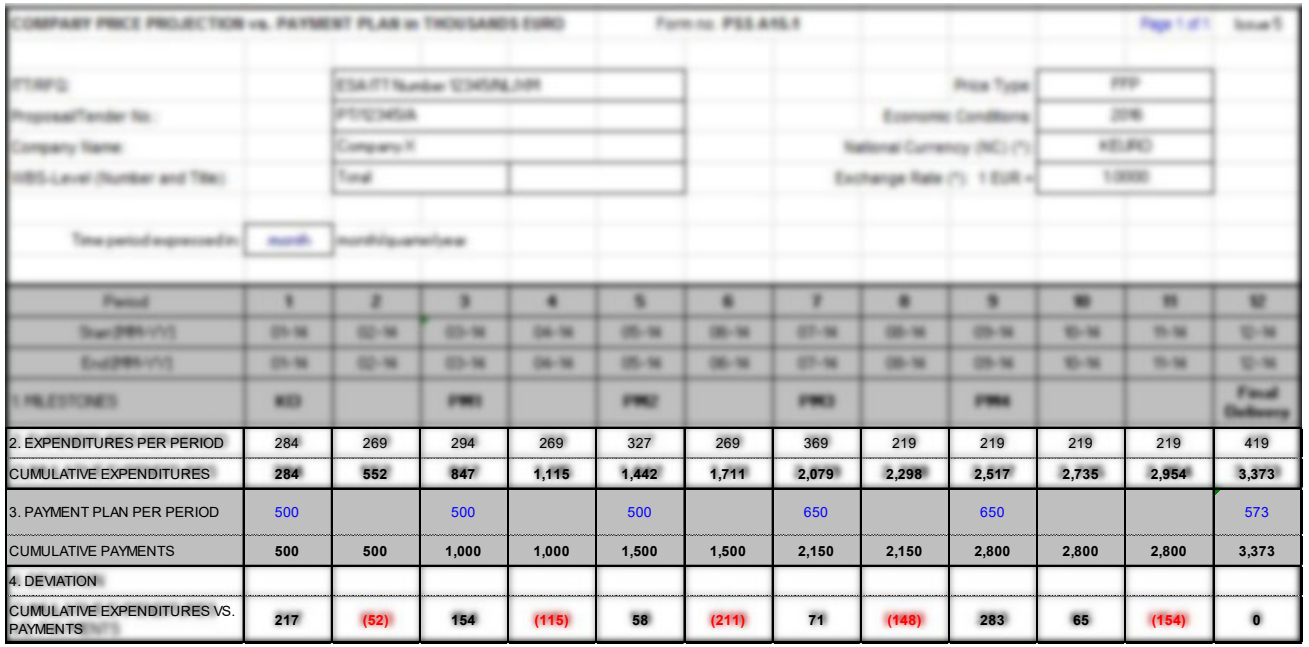
1. MILESTONES	KO		PM1		PM2		PM3		PM4			Final Delivery
2. EXPENDITURES PER PERIOD	284	269	294	269	327	269	369	219	219	219	219	419
CUMULATIVE EXPENDITURES	**284**	**552**	**847**	**1,115**	**1,442**	**1,711**	**2,079**	**2,298**	**2,517**	**2,735**	**2,954**	**3,373**
3. PAYMENT PLAN PER PERIOD	500		500		500		650		650			573
CUMULATIVE PAYMENTS	**500**	**500**	**1,000**	**1,000**	**1,500**	**1,500**	**2,150**	**2,150**	**2,800**	**2,800**	**2,800**	**3,373**
4. DEVIATION												
CUMULATIVE EXPENDITURES VS. PAYMENTS	**217**	**(52)**	**154**	**(115)**	**58**	**(211)**	**71**	**(148)**	**283**	**65**	**(154)**	**0**

Profile @ PSS A10

Milestones

Neutral cash flow

In order to negotiate as near as possible a neutral cash flow, the expenditure profile, identified in the PSS A10, is matched against a proposed milestone payment plan.



2. EXPENDITURES PER PERIOD	284	269	294	269	327	269	369	219	219	219	219	419
CUMULATIVE EXPENDITURES	**284**	**552**	**847**	**1,115**	**1,442**	**1,711**	**2,079**	**2,298**	**2,517**	**2,735**	**2,954**	**3,373**
3. PAYMENT PLAN PER PERIOD	500		500		500		650		650			573
CUMULATIVE PAYMENTS	**500**	**500**	**1,000**	**1,000**	**1,500**	**1,500**	**2,150**	**2,150**	**2,800**	**2,800**	**2,800**	**3,373**
4. DEVIATION												
CUMULATIVE EXPENDITURES VS. PAYMENTS	**217**	**(52)**	**154**	**(115)**	**58**	**(211)**	**71**	**(148)**	**283**	**65**	**(154)**	**0**

PSS A15.1 – Milestone Payment Plan

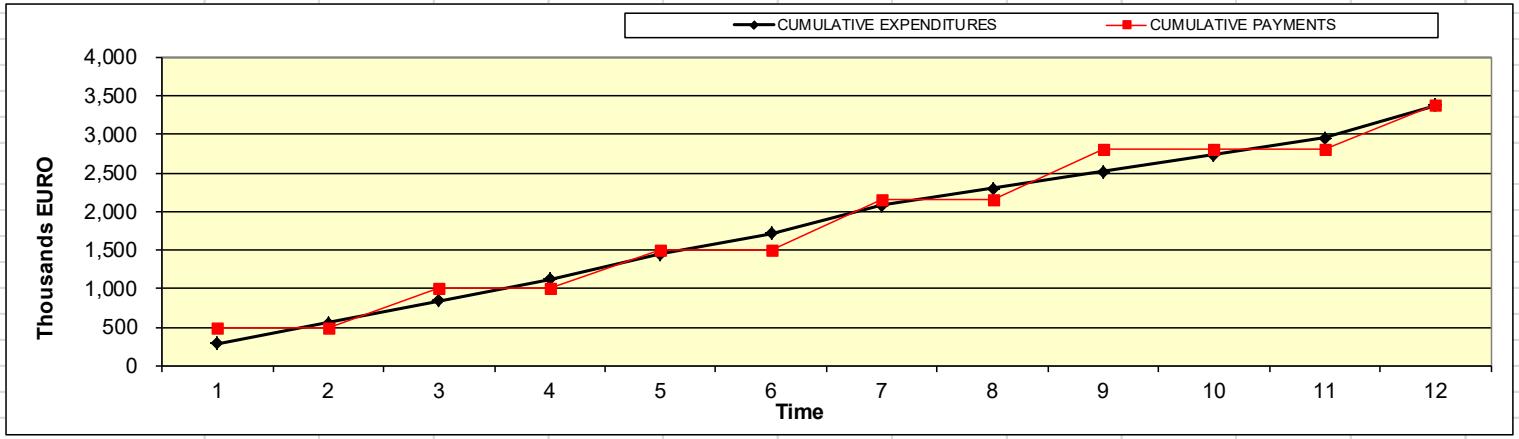
The result is then presented in a simple graph, showing cumulative expenditure against cumulative payments.

COMPANY PRICE PROJECTION vs. PAYMENT PLAN in THOUSANDS EURO Form no. **PSS A15.1** Page 1 of 1 Issue 5

ITT/RFQ:	ESA ITT Number 12345/NL/XM	Price Type:	FFP
Proposal/Tender No.:	PT/12345/A	Economic Conditions:	2016
Company Name:	Company X	National Currency (NC) (*):	KEURO
WBS-Level (Number and Title):	Total	Exchange Rate (*): 1 EUR =	1.0000

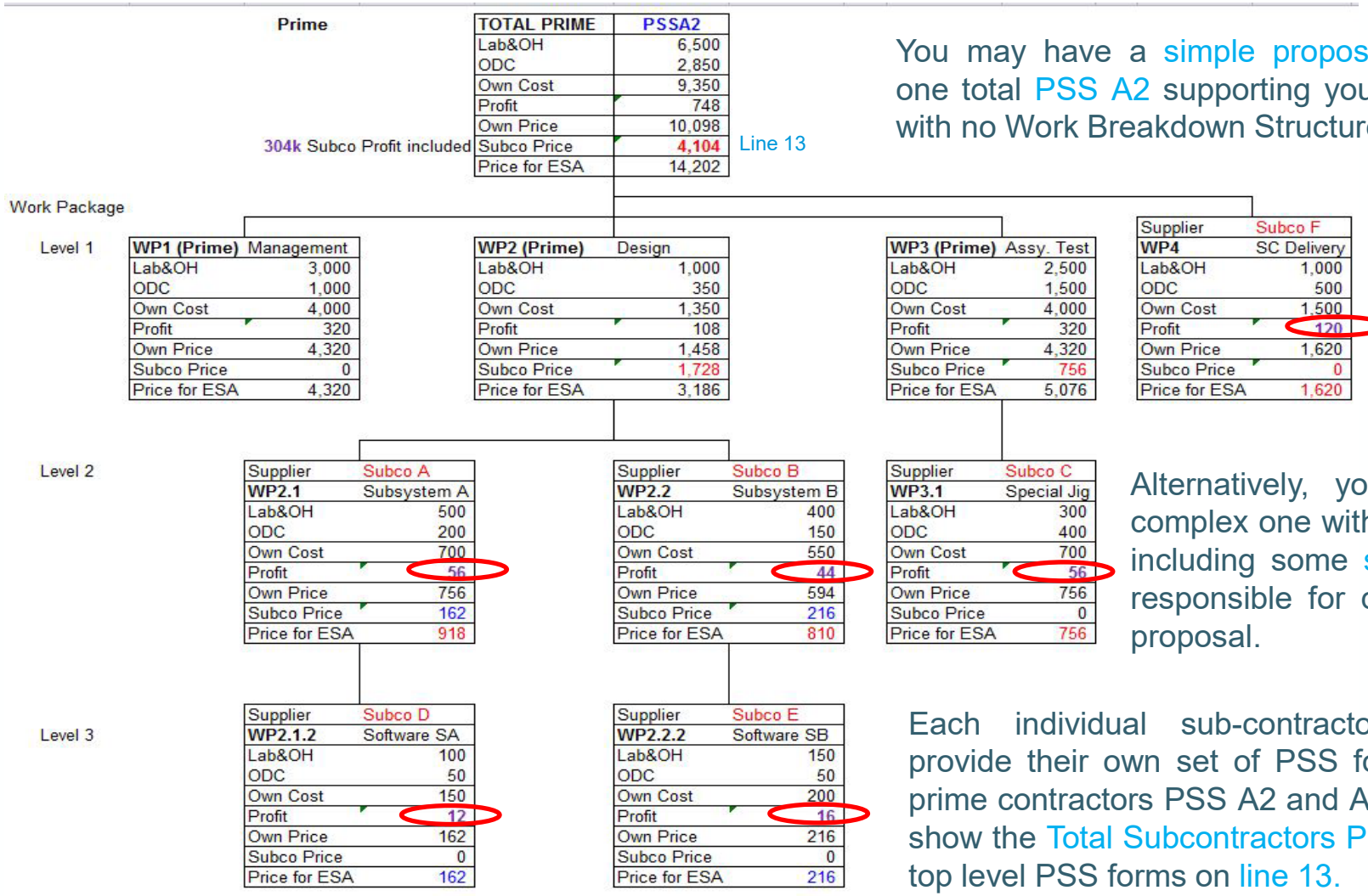
Time period expressed in: month (month/quarter/year)

Period	1	2	3	4	5	6	7	8	9	10	11	12
Start [MM-YY]	01-14	02-14	03-14	04-14	05-14	06-14	07-14	08-14	09-14	10-14	11-14	12-14
End [MM-YY]	01-14	02-14	03-14	04-14	05-14	06-14	07-14	08-14	09-14	10-14	11-14	12-14
1. MILESTONES	**KO**		**PM1**		**PM2**		**PM3**		**PM4**			**Final Delivery**
2. EXPENDITURES PER PERIOD	284	269	294	269	327	269	369	219	219	219	219	419
CUMULATIVE EXPENDITURES	**284**	**552**	**847**	**1,115**	**1,442**	**1,711**	**2,079**	**2,298**	**2,517**	**2,735**	**2,954**	**3,373**
3. PAYMENT PLAN PER PERIOD	500		500		500		650		650			573
CUMULATIVE PAYMENTS	**500**	**500**	**1,000**	**1,000**	**1,500**	**1,500**	**2,150**	**2,150**	**2,800**	**2,800**	**2,800**	**3,373**
4. DEVIATION												
CUMULATIVE EXPENDITURES VS. PAYMENTS	**217**	**(52)**	**154**	**(115)**	**58**	**(211)**	**71**	**(148)**	**283**	**65**	**(154)**	**0**



Consistent with PSS-A10

Example Work Breakdown Structure including Subcontractors

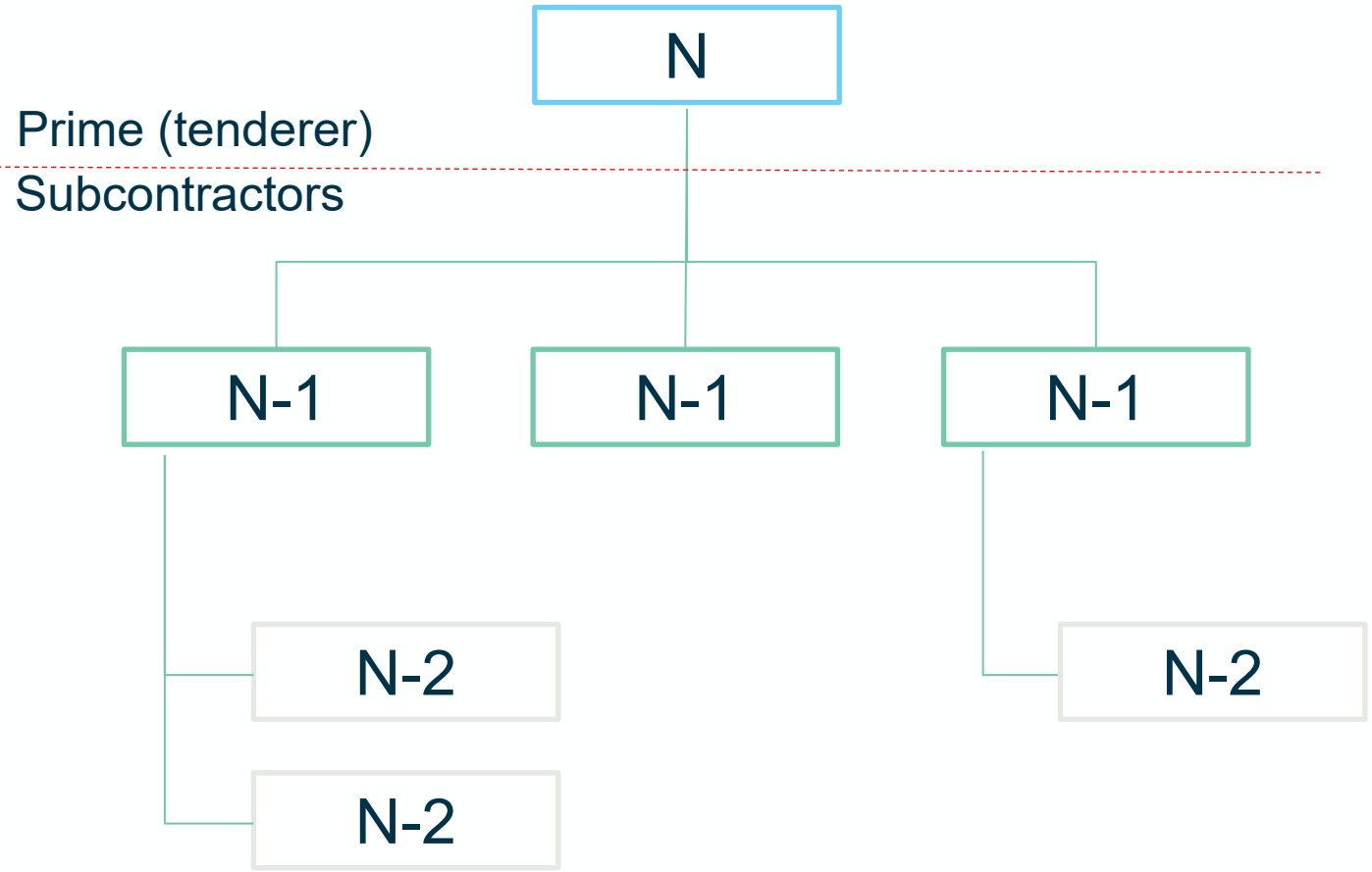


You may have a simple proposal with one total PSS A2 supporting your price with no Work Breakdown Structure.

Alternatively, you might have a more complex one with defined work packages, including some subcontractor companies responsible for distinct elements of your proposal.

Each individual sub-contractor should provide their own set of PSS forms. The prime contractors PSS A2 and A8 will only show the Total Subcontractors Price on it's top level PSS forms on line 13.

Build-up of the Consortium price



PSS-A forms are to be filled-in independently by the Prime and all subcontractors.

$$P_{tot}=P_N+ \Sigma P_{N-1}+\Sigma P_{N-2}$$

Consistency is key

All work packages are summed up into the Prime PSS A2. Note that the subcontractors price is shown below the Prime profit line, since the profit attributable to the subs, in total 304k, is already included.

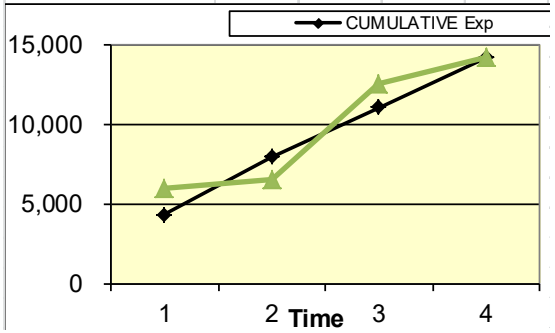
As mentioned before, the basic principles of coherence remain between the PSS forms of the Prime and the Subcontractor, flowing through the PSS A8, A10 and A15.1.

PSSA8 (Prime)	WP1	WP2	WP3	WP4	Total
Lab&OH	3,000	1,000	2,500		6,500
ODC	1,000	350	1,500		2,850
Own Cost	4,000	1,350	4,000	0	9,350
Profit	320	108	320		748
Own Price	4,320	1,458	4,320	0	10,098
Subco Price	0	1,728	756	1,620	**4,104**
Price for ESA	4,320	3,186	5,076	1,620	14,202

PSSA10 (Prime)	Q1	Q2	Q3	Q4	Total
Lab&OH	1,650	1,700	1,800	1,350	6,500
ODC	1,500	900	400	50	2,850
Own Cost	3,150	2,600	2,200	1,400	9,350
Profit	252	208	176	112	748
Own Price	3,402	2,808	2,376	1,512	10,098
Subco Price	918	810	756	1,620	**4,104**
Price for ESA	4,320	3,618	3,132	3,132	14,202

Each individual sub-contractor should provide their own set of PSS forms. The prime contractors PSS A2, A8, A10 will only show the Total Subcontractors Price on it's top level PSS forms on line 13.

PSSA15.1 (Prime)	Q1	Q2	Q3	Q4
Start [MM-YY]	Jan	Apr	Jul	Oct
End [MM-YY]	Mar	Jun	Sep	Dec
1. MILESTONES	1	2	3	4
2. EXPENDITURES	4,320	3,618	3,132	3,132
CUMULATIVE Exp	**4,320**	**7,938**	**11,070**	**14,202**
3. PAYMENT PLAN	6,000	500	6,000	1,702
CUMULATIVE Pay	**6,000**	**6,500**	**12,500**	**14,202**
4. DEVIATION	1,680	(1,438)	1,430	0



Other forms

PSS-A4 is a summary of the WPs : company + # hours + price

PSS-A6 is a summary per company and per price type

PSS-A20 is the ESA standard format of the ‘WP Description’

PSS-A40 gives full detail of hi-rel parts

PSS-A45 is NON-COST : product tree and hardware matrix

Remember, more detailed definitions of each PSS line item can be found in the PSS templates

6. Contacts

1. PSS-A forms and ECOS

https://esastar-publication-ext.sso.esa.int/supportingDocumentation/details/18 (PSS Forms)

https://www.esa.int/About_Us/Business_with_ESA/How_to_do/Introduction_to_ESA_Costing_Software (ECOS)

2. Specific question on an ITT: contact contract officer.

3. Generic questions on PSS forms etc.: contact ESA Industrial Audit at PSS@ESA.INT

7. Q&A

Any Questions?