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TERMINOLOGY used in ESA Business Applications

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**Adjudication Committee (AC)**
ESA internal board which, among other things, decides if a Business Applications procurement action can proceed for an activity with an ESA price equal or above 250 kEUR. The AC meeting is typically taking place every two months, following a calendar published before the beginning of the year. Business Applications activities are typically submitted through a single Grouped Procurement Proposals paper, which has prior to be approved by D/TIA and then submitted typically not later than one month before the meeting takes place. In case the paper is proposed in the AC Meeting agenda as a “A item”, the paper is approved together with the approval of the agenda. However, even if the paper is an “A item” it is expected that the representative of TIA-A is available to present the paper. In case the paper is not considered as a “A item”, the representative of TIA-A is expected to introduce the paper and answer the possible questions raised by the AC members. After the meeting, the AC secretary issue an email with the outcomes of the approval status. The subset of activities that need to go to the next stage of approval (to the Industrial Policy Committee, IPC), typically the one with an ESA price (of the single activity, including previous ones in case of a Contract Change Notice, CCN) equal or above 500 kEUR have to be extracted from the paper after removing the references of the AC and leaving only the ones for the IPC, and sent back, after any required amendments, to the AC secretary. ESA takes care of interfacing with AC and keeps companies informed as needed.

**Adoption**Refers to the uptake of solution by customers in a market. For example, a service that has high user adoption is in high demand among its users. A product/service that has rapid market adoption is experiencing strong customer purchases of the product/service. An example would be the rapid adoption of Apple’s iPhone and iPad.

**Adoption Curve**A line graph used to illustrate the adoption trends of a particular solution in a market. A typical adoption curve in technology markets has a long slow ramp at the start — adoption begins with a few early adopters and, if successful, progresses through the stages of mainstream adoption, market saturation, and market decline.

**Advanced User**User with relevant technical knowledge or expertise in the field of application of a system. An Advanced User can contribute, in cooperation with the designer, to the formulation of the System Requirements.

**Amortization**"Amortization" -- refers to method of allocating the cost of a intangible asset over that assets useful life (e.g. a patent cost spread along the patent output lifetime).
 **Business Model**The mechanism(s) by which an organisation generates revenue. There is a wide array of business models – some examples include monthly subscriptions to services, direct sales to organisations, channel resellers, technology licensing, etc. The choice of business model is critical to success in capturing the business opportunity. An organisation can have more than one business model to achieve its objectives.

**Capital Expenditure (CAPEX)**

Refers to funds used by a company to acquire or upgrade physical assets such as equipment, property, industrial buildings etc.

**Channel**An organisation you form a partnership with to represent your solution in a specified market. Channel Partners can include: resellers, service providers, system integrators, distributors, etc.

**Commercial Customer**An organisation that purchases a product/service to use in the operation of its business. This is in contrast to a User Customer who purchases for personal, non-business use. Commercial Customers have rational, profit-oriented behaviours while User Customers have personal, emotional behaviours.

**Commercialisation**The process of turning an idea into a market success, by generating a positive return on investment or by creating a positive impact on the economic and social well-being of society.
 **Competitive analysis**The act of identifying the value point(s) in your solution that the target customer considers to be distinctive.

**Competitor**Alternative entity that have products, systems, services and solutions that aim to create same value for the customer segments. Competition can exist between products with similar feature sets as well as substitute products with different feature sets.

**Contract Change Notice (CCN)**

An important change in the activity that needs to be formalised via a contractual change. This can include additional work which change the cost and price of the activity. A CCN is typically submitted by the prime as a CCN form (available as an appendix of the contract) and a CCN proposal, which includes also the financial forms in case of cost variation. In case of a CCN with increase of ESA price, the Letter of Authorisation by the relevant National Delegation has to be included in the CCN proposal. The CCN is subject to an ESA internal process of evaluation, which is concluded by the issue of a CCN Review Board (CRB) Report. Upon positive outcome of the CRB board, the CCN is signed and placed. A CCN with price increase will be treated as a new activity in terms of reporting.

**Contract Officer (CO)**The ESA contractual representative for a Business Applications contract. The CO is the official point of contact for all matters that regard the contractual part of the activity.

**Cost**In ESA terms, “cost” refers to the total cost of development including labour, travel, development tools, subcontractors, external services, etc.

**Cost of Sales**The costs attributed to the production of a product/service. It includes direct material costs, direct labour, and overhead costs (as in absorption costing), and excludes operating costs OPEX (period costs) such as selling, administrative, advertising or R&D, etc.

**Customer Gains**

Benefits and desires, and may span personal, functional, or economical etc. For example, this box could include positive emotions, functional requirements, or specific cost savings.

**Customer Jobs**

Customer needs, the problems that they are trying to solve and the tasks they are trying to perform or complete.

**Customer Pains**

The negative emotions and undesired costs, situations and risk which the customer could experience before, during and after getting the job done.

**Customer (Segments)**A Customer segment is an individual or organisation for whom are you creating value (solving the problems)

**Differentiation**The process of distinguishing a solution or company from competitors by focusing on aspects (features) that are unique. Differentiation is about identifying the unique advantage in your solution – the "secret sauce" that customers value and that allows you to gain a competitive advantage.

**Depreciation**Refers to method of allocating the cost of a tangible asset over its useful life. Businesses depreciate long-term assets for both tax and accounting purposes.

**Discounted Cash Flow**Refers to a valuation method used to estimate the attractiveness of an investment opportunity. Discounted cash flow (DCF) analysis uses future free cash flow projections and discounts them (using the cost of capital) to arrive at a present value, which is used to evaluate how good is the potential for investment.

**Earnings Before Interest & Tax (EBIT)**Refers to "Earnings Before Interest & Tax" An indicator of a company's profitability, calculated as revenue minus expenses, excluding tax and interest. EBIT is also referred to as "operating earnings", "operating profit" and "operating income".

**ESA Price**The amount of ESA funding that can be granted to a successful bidder. In the Business Applications projects, the ESA Price can be up to 75% of the cost.

**Free Cash Flow**Refers to the cash that a company is able to generate after laying out the money required to maintain or expand its asset base. Free cash flow is important because it allows a company to pursue opportunities that enhance shareholder value.

**Gain Creators**

The features of your product that creates customer gain

**Gross Margin**Gross Margin is a measure of the company's effectiveness in turning raw materials into income. It is calculated by subtracting Cost of Sales/Goods Sold from Gross Revenue. To express Gross Margin as a percentage, divide Gross Margin by Gross Revenue.

**Industrial Policy Committee (IPC)**A board composed of ESA and representatives of all ESA Member States that regularly meet to discuss industrial policy matters, among which if a Business Applications procurement action can proceed for an activity with an ESA price equal or above 500 kEUR. The IPC meeting is typically taking place every two months, following a calendar published before the beginning of the year. Business Applications activities are typically submitted through a single Grouped Procurement Proposals paper, which has prior to be approved by the Adjudication Committee. In case the paper is proposed in the AC Meeting agenda as a “A item”, the paper is approved together with the approval of the agenda. In case the paper is not considered as a “A item”, the representative of TIA-A is expected to introduce the paper and answer the possible questions raised by the IPC members. After the meeting, the IPC secretary issues an email with the outcomes of the approval status. ESA takes care of interfacing with IPC and keeps companies informed as needed.

**Industry**describes a specific grouping of companies with highly similar business activities.

**Internal Rate of Return (IRR)**Refers to the rate of return used to measure and compare the profitability of investments. It is the value that the cost of capital has in order to have a NPV equal to 0.
 **Joint Communications Board (JCB)**It is the board composed of ESA executives and representative of member states which deals with all aspects of the Telecommunications and Integrated Applications in ESA. The JCB typically meet every quarter, following a calendar which is published the year before. Among other things, the JCB approve specific competitive tender actions for Business Applications. Furthermore, the JCB is also receiving for information the Non-Competitive Activity Work Plan where all new activities in direct negotiation (excluding CCNs) are presented. In addition, the JCB receives also for information the Status Report, where the status of all Business Applications activities is presented.

 **Key Performance Indicator (KPI)**Aspect of an item observed or measured from its operation which is of critical importance for the user/customer/stakeholders.

**Lead Customer**An early stage customer that is willing to work with you to help define and shape a product/service into a commercially viable offering. Lead customers provide critical feedback in the commercialisation process and are willing to take the risk associated with early stage technologies.

**Licence**Legal permission from a patent owner that allows a third party to use or practice an invention. Licensing technology is one way for inventors to commercialise their ideas.

**Letter of Intent (LOI)**A letter of intent or LOI is a document outlining the terms of an agreement between two or more parties before the agreement is finalised.

**Market**The market is the group (or groups) of customers who require the products and services.

**Market Forces**The external uncontrollable forces that have an impact on an organisation conducting business in a given sector/industry – for example, market forces include events and trends in political, economic, social, technological and demographic. Market forces should be monitored and assessed in terms of their impact as an opportunity or threat to an organisation and its solution(s).

**Market Share**The total sales of an organisation divided by the sales of the market it serves. This is one means of expressing the competitive position of a particular business, product/service or technology. It is a quantitative value, in contrast to mindshare, which is qualitative.

**Net Present Value (NPV)**Net Present Value is an important value in discounted cash flow analysis, and is a standard method for using the time value of money to assess the viability of long-term projects. NPV reflects the fact that expenses or revenues that will not occur until sometime in the future should be discounted to reflect the impact of risk, interest, and inflation over that time period.

**Non-Recurring Engineering Costs (NRE)**Non-recurring engineering costs refers to items that are one-time engineering costs associated with the project.

**Original Equipment Manufacturer (OEM)**The original manufacturer of a component or system.  The term OEM is used in several contexts – first, as defined above and second, to describe a customer who integrates another manufacturer's component into their branded system.  An example of an “OEM customer” would be a smart phone device manufacturer purchasing the operating system software from an OEM.

**Operating Expenses (OPEX)**Refers to those expenses that a business incurs as a result of performing its normal business operations (e.g. employee wages, R&D funds).

**Operational Stage**Utilisation of the service after the completion of the applications project with ESA.

**Opportunity**Refers to the exploitation of the commercial advantage that can result from the intended development. What window of opportunity is available to you through the intended development? The Opportunity is your statement of the business advantage you expect to gain through the intended development.

**Pain Relievers**

The feature of a product/service that address the pains of the customer

**Partner**A relationship between two parties to collaborate to achieve agreed upon objectives. For example, a business partnership between two organisations could be between a manufacturer and a reseller to distribute products to a defined territory or customer segment.

**Pay Back Period**Refers to the period of time required for the return on an investment to "repay" the sum of the original investment.

**Pilot Users**Personnel and associated organisation(s) involved in the project contributing to the definition and validation of the requirements and involved during the Pilot Service by utilising the product / service developed in the project

**Pre-operational Stage (or Pilot Service)**Utilisation of the service performed as part of the applications project used to validate the requirements and assess the success criteria. This corresponds to the pilot stage.

**Product**A sellable good such as equipment, subsystem, system or service offered by the supplier to the customer and required by the user in order to implement the application.

**Project Controller (PC)**The member of the ESA team involved in the assessment of the financial aspects of an activity. The PC is typically involved in the evaluation stage of proposals and in the finalisation of the contract.

**Quality Function Deployment (QFD)**A tool, typically implemented in an Excel spreadsheet, intended to help the formulation and characterisations of User Requirements and System Requirements.

**Reseller**An organisation that represents and sells a product in the market on behalf of a manufacturer. A Reseller is one example of a channel partner as they “partner” with the manufacturer to bring a product to market.

**Revenue**Revenue is the total/gross amount of sales for a given product, service or company. Revenue is also a term used to describe Turnover.

**Reviewer**An individual or group of individuals that will evaluate and assess a project proposal.

**Return on Investment (ROI)**This is the amount, expressed as a percentage, that is earned on a company's total capital calculated by dividing the total capital into earnings before interest, taxes or dividends are paid. Colloquially, ROI is often used to express the idea that the benefit gained through any type of investment (e.g. time, resources) outweighs the investment.

**Sales Forecasting**The process of estimating the amount of sales expected over a particular period of time. It considers factors such as past sales volumes, general economic and industry conditions, relationship of the organisation's sales to macroeconomic indicators, relative product profitability, market research studies, pricing policies, advertising, quality of the sales force, competition, seasonal variations and productive capacity. The Sales Forecast is the usual starting point of the budgeting process.

Two methods can be used:

* **Bottom-up sales forecasting:** forecasting that calculates the number of each product/service that will be sold in a given period of time. This method estimates demand by adding together the anticipated sales to customers.
* **Top-down sales forecasting:** forecasting that is calculated based upon addressable market size and the proportion of that addressable market the company expects to capture in a given period of time.

**Scenario**A situation in which a service is required. A Scenario is a summary description of an event or series of actions and events.

**Sector**A sector is one of a few general segments in the economy within which a large group of companies can be categorized. A sector represents a group of industries and markets that share common attributes. Each sector has unique characteristics and a different profile.

**Segment**Also known as a Market Segment. An identifiable subgroup within a market, whose members have similar problems to solve or share similar needs. Members of a Segment also naturally tend to consult one another when evaluating solutions. The rail example above illustrates the Segment concept.

**Service**An intangible good provided to make available and support a specific application in the user environment.

**Service Readiness Level (SRL)**An indication of the level of technical and operational maturity of an application or a service. This concept has been proposed within ESA TIA-A to complement the system used in the Technology Readiness Level (TRL), Ref. ECSS-E-AS-11C 1 October 2014. The definition of SRL vs. TRL is given in the table below:

| TERMINOLOGY used in ESA Business Applications | SRL | TRL |
| --- | --- | --- |
| 1 | Basic principles observed and reported | Basic principles observed and reported |
| 2 | Application/service concept formulated, market opportunities not yet addressed | Technology concept and/or application formulated |
| 3 | Concept analysis performed and target market identified | Analytical and experimental critical function and/or characteristic proof-of-concept |
| 4 | Application/service verification in laboratory environment, market segment(s) and customers/users identified | Component and/or breadboard functional verification in laboratory environment |
| 5 | Application/service verified using operational elements, customers/users not involved | Component and/or breadboard critical function verification in a relevant environment |
| 6 | Demonstration of prototype in relevant environment, price policy identified | Model demonstrating the critical functions of the element in a relevant environment |
| 7 | Trials with customers/users to validate utilisation and business models | Model demonstrating the element performance for the operational environment |
| 8 | Application/service completed and validated, commercial offer ready | Actual system completed and accepted for flight (“flight qualified”) |
| 9 | Application/service operationally deployed and used by paying customers | Actual system “flight proven” through successful mission operations |

**Service Obtainable Market (SOM)**

Look at Target Market

**Serviceable Available Market (SAM)**

is the portion of the total available market (A/the segment/s (i.e. definable subgroup)) that the product/s and/or service/s fills.

**Sales, General and Administration (SG&A)**That part of a company's activities (and expenses) that is concerned with operations, sales, general and administrative functions.

**SharePoint Project Workspace (SPPW)**A restricted SharePoint site requested by the ESA Technical Officer for each ESA activity, where the Project Manager of the Prime Contractor as external user can access, upload and download deliverable docs for tracking activity milestones and record and tracking actions.

**SPICE**The SharePoint based applications environment of ESA. SPICE is used to host files in Libraries, to manage data in Lists and to interact with users via Forms and via emails generated by the system. SPICE also links Libraries , List and users in business processes implemented via workflows.

**Stakeholder**A stakeholder is a person or group with an interest in a particular category of solution or service.

**Success Criteria**Objectives expressed as qualitative and/or quantitative targets (referring to the KPI) to be reached during the pre-operational stage indicating that the pre-operational services have been successful for the user/customer/stakeholder. They represent necessary conditions for the rollout of the service during the operational stage.

**System**A functionally self-contained and integrated combination of hardware and/or software products, which represent the technological building blocks required to deliver a product/service. The system, in its turn, can consist of a number of subsystems and equipment, representing a further breakdown of the technological platform.

**System Attributes**Specific implementation of the system/service that needs to comply with the System Requirements.

**System Requirements (SR)**Statement typically originated by the designer about what the system shall do and/or shall be to fulfil the User Requirements (e.g. associated to constraints, environment, operational and performance features). (The “HOW”).

**Target Market**is the percentage of the serviceable available market that a company aims to capture in the short term

**Technical Officer (TO)**The ESA technical representative for a Business Applications contract. The TO is the main contact point for ESA, and he is involved from the early submission until contract conclusion.

**Time to Market**An expression of the time period for a product/service to be ready for use by users and paid by customers.

**Time to Revenue**An expression of the time period for a product/service to go from inception to revenue stage (i.e. when it will start generating revenue from customers).

**Total Available Market (TAM)**

or Total Addressable Market, is the total market demand for a product or service. I represent the revenue opportunity available for a product/s and/or service/s. It counts the total of all unit sales of all competing product/s and/or service/s

**Traceability Matrix**Verification method used to check that the set of elements A is correctly translated and matched to the set of elements B. For instance, URs to SRs, or Tests to SRs.

**Turnover**Turnover is the total/gross amount of sales for a given product, service or company. Turnover is also a term used to describe Revenue.

**Use Case**Formal description of steps or actions between the user and the product/service; usually represented by detailed diagrams (e.g. Unified Modeling Language, UML).

**User**A User is a person or group with interest in utilising the product/service to be developed and involved in its validation. Users are often confused with commercial customers, but they are not necessarily the same thing. For example, a rail operator that purchases a product/service to deploy on its trains is the customer, while the passengers on the trains who use the product/service are the users.

**User Need**A qualitative improvement as desired and expressed by the user, not necessarily verifiable.

**User Requirement (UR)**Statement originated by the users describing the functions, performance and capabilities that the product/service will bring to them during its utilisation (the “WHAT”).

**Validation**Process which demonstrates that the product is able to accomplish its intended use in the intended operational environment. The user shall have a key role in this process. Validation addresses whether a product will satisfy the needs of its users.
Validation proves it is the right product.

**Value Chain**An informal set of organisations that participate together in an ecosystem to satisfy the needs of users and other stakeholders. Organisations participate at specific levels of a Value Chain to add capabilities to complement other components or solutions in the chain. Companies in a Value Chain look to collaborate with other members of the same chain in areas such as marketing, sales, and development.

**Value Map**A visual tool used to show the competitive advantage of a solution showing ow you differentiate from competitor/s highlighting the difference from your product/service features

**Value Proposition**

Also called the Value Statement. This is a statement of the value that a company or solution offers to its customers and/or partners. A Value Statement is expressed from the perspective of the value to the target customer and addresses the main benefit derived by the use of the product/service.

**Verification**Process to obtain confirmation that a system has been implemented according to the System Requirements (has itbeen produced according to the design). This is usually done through a verification method. Users are not involved in the Verification.

Verification proves the product is right.