URS - User Requirement Specification Template

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Introduction

This document is an example template of a User Requirement Specification (URS) it has been created by Automate UK for end users, robot integrators, machine builders and automation solution providers to use as a guide to create a project URS. The aim for this document is to help project stake holders gather pertinent information, highlighting areas of specific interest that the solution provider will need to concept, design and cost before creating a quote. Once a URS has been completed it should be used as the basis for the creation of a quote and then purchase order. It is expected that this template is used as a guide to the creation a companies own URS. This document's aim is to highlight as many possible areas to be considered when creating a URS. You may need to remove or add elements for your own uses as required.
The box on the right can be used to tick off each element as you complete it and are happy with the contents.
Once completed and agreed and signed by both parties it should become the cornerstone of your project documentation. You should use it's contents to create your Factory Acceptance Test (FAT), and Site Acceptance Test (SAT). These documents are vital to ensure that you can achieve final sign off and therefore final payment for the work. This should only be signed once both parties agree that what has been delivered is in line with this document.
While it is normally the role of the End User to create a URS, highlighting the requirements of their project, it is vital that machine builders and integrators understand a URS so that they can ensure they any provided to them has all the information they require to complete a successful quote and project.

User Requirement Specification - URS

Revision Control

Version No.	Date	Reason for revision	Name

Confidentiality

The contents of this document are to be treated as confidential to CUSTOMER and SUPPLIER and are not to be disclosed to any third party, without the prior written authorisation by CUSTOMER and SUPPLIER.

User Requirement Specification for:		
Customer Name:		
Project Name:		
Customer Address:		
Site Address:	It is important to ensure that the address at which the system will be installed is confirmed.	
Customer Contacts:	List all customer contacts that are working on the project and can provide relevant information.	
Authors and Contributors:	List of all contacts of all parties that are contributing to this document.	
Project Introduction:	Give a brief explanation of what the customer has asked for. Giving basic high level details that were discussed during the first conversation concerning this system. Include details that will require clarification later to be able to prepare a quotation. This should include an explanation of why this URS is being completed.	
Existing Process Information:	Include the following if there is an existing process, either to be replaced, upstream or downstream. Include anything else that is considered important. • Description of the process • Description and Information about existing machines to be integrated with. • Photographs • Standard work information • Cycle times • Current issues • Product/process related issues • Proposed improvements	
Requirements:	This should be written with a focus on what the system should do and not how it should do it. It should contain phrases such as: "*The HMI will have user access for the different levels operators, maintenance staff and managers, each access should have access to different levels of information*." "*The product will be presented to the system by the previous machine as a continuous line and will need to be cut at after the 6th product, the product will then be folded in to pairs and packaged in 6's.*" Also, consider at this stage what are the priorities for the system, this will then lead to the stakeholders that you need to engage with the design and agree the process. The priorities may include costs, throughput, reliability, sustainability, maintainability, specification of control equipment. You should complete this section in close contact with the customer as it is what they require from the system you will provide.	

Objectives:	Create an overview of the project in written terms. Do not use lists or technical language. The objective should be a description of the goal for the project. You are describing, what is to be achieved, what problem needs to be solved and what are the benefits over the existing system. You are trying to put into words what the customer has requested to ensure that you have understood their requirements. An example might be: "*We have been asked to create a system that will place sausages into a plastic tray to be wrapped in cellophane with a card banding. It should be powered by single phase 240v, be able to run unattended and will have a throughput of 120ppm. It should have an easy to operate HMI and be able to store faults and running hours in a local location accessible by different user levels e.g. maintenance, operators and management. There are 2 sizes of packs 6 and 12 sausages.*"	
Project Critical Information:	Consider critical information required to successfully complete the project. This could be a list of information and should be written in a concise manner. • Cycle time and throughput of the system. • Hours of operation including shift patterns and maintenance. • Infeed, including delivery details, pallets, boxes, totes, product etc. • Outfeed. • Product characteristics consider, dimensions, material, weight, construction, fragility, consistency, possible defects, etc.	
Deliverables:	Define the required outcome for the project including: • What is the required outcome for the project. • What is to be achieved. • What are the key milestones. • Are there separate phases to the project. This is not an exhaustive list, include anything else considered vital to the completion.	
Project timeline:	It is important that the timeline for the project is understood and agreed by both parties. Include in this the various stages/milestones that need to me met. This could be done a pictorial representation, either a flow chart of Gantt chart. It is important to consider when equipment needs to be ordered to achieve the final delivery date and that the delivery may be delayed if order placement is delayed.	
Exclusions and limitations:	Not only is it important to lay out what you are including in your design it is equally important to list out what you are not. This could be in the form of a list and should include items that you are not going to provide. These could include: • Infeed or outfeed conveyor. • Additional HMI screens to be purchased separately. • Limitations on the scope of software . • Integration into existing systems. • Training. • Site support. • Anything considered as part of a separate contract.	
Supporting Documents:	List out any documents that are considered useful to the project. Include copies or links to these in a document pack. • Hand sketches. • Mock-ups. • CAD drawings. • Electrical schematics. • Conceptual designs. • Site maps. • Site services. • Images of HMI pages.	

Assumptions:	List all assumptions that are made. For example: "Product will be presented to the system via the existing conveyor, in a straight line with no products over lapping and a gap between products of 10mm at a of speed of 0.5m/s." It is vitally important that all assumptions are listed especially in the event that something is introduced to the system that you were not aware of. It is the customers responsibility to tell you of changes but it is also your responsibility to ask. Include here if there is a requirement to communicate with 3rd party equipment, what is the protocol and whose responsibility is it to make this work, etc.		
Additional items to consider:	It is useful to consider elements that are excluded that you may be able to provide at a later date, covered by a different URS or Quote. For example: you may want to offer a training, support or maintenance contract. This may be considered similar to the Exclusion section but here you can give a more detail to what you can provide not only what excluded.		
Regulatory concerns:	Consider regulatory requirements for the system. Will the system be installed in a different country, does the environment or industry segment require special considerations e.g. pharmaceutical, food, explosive areas etc		
Installation and location:	There is a long list of elements that you need to consider when looking at the installation and site location. See some examples of them list below, be aware that this is not an exhaustive list, add any you consider important in addition. • Location. Both for install and operation. You may require additional space for installation. If possible obtain factory layout drawings to include in the document pack highlighted with the installation location. • Access to the site. Consider corridors, doorways, lifts, lifting equipment, loading areas, height, weight or time restrictions. • Site location. Final install may not be at the address specified above. • Power supplies, electrical phase/power/voltage, pneumatic air supply, HVAC. Both during and after install. • Noise levels or restrictions. • Air quality. Dust or vapor. • Site restrictions. Health and Safety, hot working, noise levels etc. Who is responsible for each of these elements, for example you need to know that the required power supplies are installed and connected at the correct time for you to power on your system and start testing. You will may not have direct control over this on a customer's site.		
Definitions, Acronyms and Abbreviations:	Include a full list and description of an terms, acronyms or abbreviations used in the document, which may not be common knowledge or could mean something different to individuals outside of either organization or industry segment.		
Sign off:	**Company Name:** Name: Job Title: Signature:	**Customer Name:** Name: Job Title: Signature:	

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