

White Paper

For

IntelliCosting (A Complete Costing Tool)

a sincere effort to put you into the faster lane

Submitted By

Intellinet Systems

7, Hartron Complex,
Electronic City, Sector -18,
Gurgaon - 122 016

Telefax: +91- 0124-5015601 - 03

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Introduction

Intellinet Systems was set up in the year 2003 with the objective of providing flexible, high quality and cost effective software solutions and services to it's customers. By enabling qualitative approach with core competency of software engineering the company provides world-class software services to its customers in the automotive and manufacturing segments.

Through strong relationships, innovation and integrated delivery capabilities, Intellinet Systems is engaged in driving long-term cost reductions, performance improvements and creating new ways of working tailored to user requirements. The team at Intellinet Systems is a blend of youth and experience. Combinations of skills help us deliver complete business solutions to our clients. We guarantee the highest standards in quality and timeliness while providing cost-effective solutions. We are fast, reliable, accurate, and efficient in our services. With this strong and focused approach, we can design, develop and implement software solutions on a project basis.

The Quality Process Model for software development life cycle at Intellinet Systems emphasizes on defect prevention rather than defect correction to ensure defect free solutions to it's clients. Our Quality Processes are dynamic and are continually reviewed and aligned with ever-changing business and technology environment to offer customers state of the art applications.

Product Summary

IntelliCosting is a state of art Graphical User Interface based Costing tool for the Panel Industry developed using Microsoft technologies. This is an innovative product targeting the **Electrical Panel Industry**, automating all the core processes starting from the receipt of a sales enquiry to job costing (Creation of **Costing Sheets**) for the Electrical Panels based on the Enquiry received. It allows **Creation of Offers**, auto-generation of **BOM** (bill of material), **SOP** (Schedule Of Price), and auto-generation of the **Composite Bill of Qty** which comes in handy during the negotiation stages followed by the **SOP** (Schedule OF Price). The application also boasts of a complete fabrication module meant for the calculation of Fabrication cost (Sheet Cost), Bus Bar Cost, Wiring & Labor Cost to give the users various aspects of costing.

Feature List Followed by a Product Overview

Intelli-MIS an Overview

Intelli-MIS

MIS - Action Plan Administration Window Log Off

Enquiry/Offer Details

Prepared By: ME2

ECL No. = [] Old Ref. [] Budgetary Offer: [] Enquiry Date: 07/Sep/2005

Client Ref. No. [] Date Due Date: 01/Oct/180 [] For All Enquiries of this ECL: []

Party Details

Name: Fakar Engineers Pvt Ltd Address: 215, Daryla Town, S. Nehru Place Contact Person: Ajay

Add New ... Add New ... Add New ...

A.S. Mahotra & Assoc. P. Ltd

Consultant Details

Name: Feedback HSS Integrated P. Ltd Address: Feedback, H.S. Local Shopping Centre, Parkside Park Contact Person: na

Add New ... Add New ... Add New ...

Abel Corak, Abel Hussain

Project Details

| Name | Type |
|---|---------------------|
| Factory at Gurgaon | LT Panel |
| 100 Bedded Hospital/Mohinagar ND | A/C/D/B PANEL |
| 200 Bedded Hospital/Pitampura | AHJ Panel |
| 216 Bedded Paediatric Hospital/Gurgaon Colony/Delhi | AHJ Panel |
| 300 Bedded Hospital/Jarwalpur ND | A/P/C and AHJ Panel |

Description: [] Description: []

Follow-Up

Marketing Engineer: []

MET: []

ME2: []

ME3: []

N.A.: []

Description: []

File No. [] Dt: 05/Sep/2005 Remarks: []

Logged in by: Administrator You are in 'Modify' mode Records found: 1 Record No. 1

7 - Hartro Sector - 1 Electronic Gurgaon Ph: 91-01 email: info website: www.intellectsystem.com

- **Enquiry/Offer Entry:** This module is used to enter the enquiry details the moment it is received from Client, Consultant, Contact Person, Project, Follow-up, etc. Once the Costing is done the offer details are also entered and saved.
- **ECL Report:** This data entered through the above module is further used for numerous other **MIS Reports** like **Weekly Enquiry received, Monthly Quotation, Follow-up**, etc. with periodical selections and multiple filter conditions.
- **Order Report:** Through this module, the **Monthly Order Booked** and **Order Lost** reports are generated based on timely updates by the Marketing Engineers for Offer Status.
- **Offer Generation:** Through this module the offer for any given Client is auto generated at the mere click of a button. The offer comprises of as many Annexure as desired by the user or required for the tender, with a key feature of customizing each annexure and also adding or removing existing ones. E.g. Cover Letter, General Specifications, Technical Comments, Confirmations & Deviations, SOP, BOM, List of approved makes, Commercial Terms, etc.

IntelliCosting an Overview



The image above shows the welcome screen for IntelliCosting, it has the following menu options:

- **Price List** Data Entry/Modifications/Deletions.
- **Fabrication Data** Entry/Modifications/Deletions/Calculations.
- **Costing Module, BOM, SOP, Composite BOQ.**
- **Automatic Price List Update** Module through Intellinet Web server.
- **Auto Backup** Modules.

This product automates the entire process right since an enquiry is received to the creation of offer through to the Negotiation Stage where an order gets booked.

Question: **How does the application do it?**

Answer:

The Price List Module

To start with there is an Price List Module wherein data for the Price Lists of all the Makes can be entered. Although data for a lot of Makes is already present in the s/w database, adding data for any new Make that is introduced at a later date is not at all difficult. The module keeps in mind the expertise and convenience of the operator and facilitates a User Friendly data entry environment.

The Price List has also been facilitated with a comprehensive user rights based security system thus protecting it from any type of sabotage. No data can be used for Costing or any other operation unless it has been completely verified by an authorized User / Administrator. The provision for calculating and standardizing Fabrication has also been made.

The Costing Module:

The Costing module enables a user to do **Costing by picking up elements from the Price List Database.**

Question: How does the application do it?

Answer: Well the answer is simple; the entire Price List Database with the data of every Make is viewed on the left hand side of the Costing Sheet module in the form of a tree structure. The user after having decided about the Item needs to navigate through the tree view selecting the respective Make (e.g. GE) – The Category (e.g. Switchgear / Miscellaneous) –The Product (ACB / MPCB...) – The Item (e.g. type of ACB) thus selecting the Item with the desired Description (e.g. Rating / Breaking Capacity, etc.). All calculations are automatic thus the only thing that the user needs to do is to select the appropriate item from the tree view. After the user is through with the Costing Sheet, he may print the entire Costing Sheet into a Preformatted Excel Sheet. The BOM (Bill Of Material) gets generated automatically with the Costing Sheet.

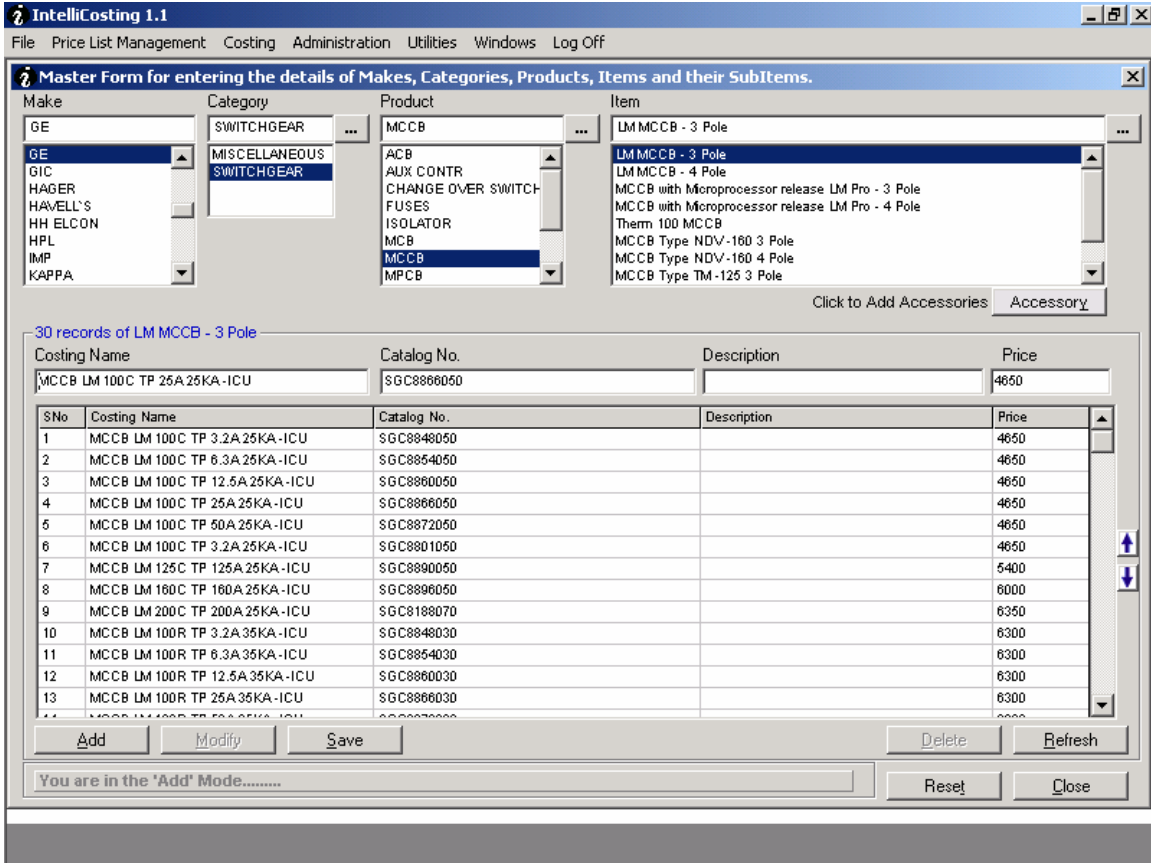
Intelli Costing has an advanced search module, which facilitates the users to do a comparative analysis of List prices for items meeting the filter criterion specified by them. Thus, the user ascertains which Make provides the desired item at the cheapest price. Eventually during negotiation it comes in very handy.

The Composite BOQ (Bill Of Quantity) category wise (Switchgear / Miscellaneous / Fabrication) listing of all items used throughout the Project is created at the Click of a single button. The effect of change in the Make of an Item, Discount on a Product (ACB, MCCB, etc.) can be seen in the Total Cost of the Project within a few milliseconds. Thus, during *Negotiation* if the client needs to be quoted a lower price, he has to be given a higher discount on a less costly Product or a different Make. All these manipulations normally take a very long time in a manual environment, but with **IntelliCosting** any level of manipulation in the document is possible and the effect is spontaneous. The user only needs to have the product installed on his Laptop while he is negotiating to avail these facilities.

Thus a **process that took days would take a few minutes only** and that too with **100% accuracy**, isn't it amazing?

Given below are a few Screen Shots to give you a feel of *IntelliCosting*

The Price List Data Entry Module



The key features of the Price List Module:

- User Friendly Graphical User Interface.
- Well Equipped to facilitate Data Entry at a very fast pace.
- Ease of use with both keyboard and mouse.

The Costing Module

This is the Entire Price List Database

Costing Sheet

| SNo | Category | Qty | Description |
|-----|----------------|-----|--------------------------------|
| 1 | I/C | 1 | 1250A ACB TP MF(C-Power) (u |
| 2 | I/C | 1 | U/V Release |
| 3 | 7.5 HP DOL ST, | 1 | 12A Pur Contactor TP Type MN1 |
| 4 | 7.5 HP DOL ST, | 1 | 0.15-0.25A OL Relay Type ML1 (|
| 5 | 7.5 HP DOL ST, | 1 | 32A MCB TP Type C 10kA |
| 6 | METERING-RIS | 1 | Ammeter-96 Sqmm |
| 7 | METERING-RIS | 1 | \oltmeter-96 Sqmm |
| 8 | METERING-RIS | 1 | Ammeter Selector Switch |
| 9 | METERING-RIS | 1 | \oltmeter Selector Switch |
| 10 | O/V | 1 | 400A MCB TP Type d sine 35kA |
| 11 | O/V | 1 | Shunt Release |
| 12 | Fabrication | 1 | Fabrication Cost |
| 13 | Bus Bar | 1 | Cost of Wiring and Accessories |

The key feature of the Costing Module:

- Costing Sheets are very easy to create – it is only a *matter of selecting the desired item from the tree structure*.
- All **Calculations are automatic**.
- Once costing is complete it is exported into a preformatted Excel Sheet.
- The s/w is also capable to *save an entire Costing Sheet in the form of a Template*, for if an enquiry for a similar Panel comes in later, then a re-costing might not be required, the Template can be used and a few desired changes made as per requirements.
- Apart from Costing, this module also comprises of sub modules for Addition / Deletion analysis, SOP (Statement of Price) for the Project, and Composite BOQ (discussed later).
- *Saves a lot of time* and has *100% accuracy*.
- *Very flexible* as modifications in the Costing Sheet for any Panel can be done at any point of time since every thing is saved in the s/w database.

The Composite BOQ Module

The screenshot displays the IntelliCosting 1.1 Composite BOQ Module. The interface includes a menu bar (File, Price List Management, Costing, Administration, Utilities, Windows, Log Off), a title bar (IntelliCosting 1.1), and a main window with a tree view on the left, a data table at the bottom, and a detailed view on the right. The tree view shows a hierarchy of equipment categories under 'SWITCHGEAR'. The data table at the bottom lists items with columns for Description, Price, Catalog No., and Item Details. The detailed view on the right shows a list of items with columns for Description, Make, Qty, and Rate, and a 'Dis.' field for discount. A red circle highlights the 'Discent Manipulation' area in the tree, and another red circle highlights the 'Swap Items' button in the detailed view.

The key features of Composite BOQ Module include:

- This is one of the key modules of the s/w and is the most critical one too as this module would come into use mostly during the Negotiation period.
- Through this module one can **view the entire equipment range for any Project** along with the Fabrication breakup in a comprehensive manner. The equipments are categorized into three sections namely Switchgear, Miscellaneous and Fabrication followed by their total costs. The Total Cost of the entire Project is also displayed.
- This module facilitates the **manipulation of the discount** on any Product (e.g. ACB, MPCB, Contactors, etc.), Switchgear or Miscellaneous. One can view the effect on the Total Project Cost along with the Cost for that particular Category (Switchgear / Miscellaneous).
- One can also see the effect on the Total Project Cost by **Changing the Make** of any Switchgear Item/s and replacing it with an equivalent Item/s (at the Click of a button). The Equivalent Item List for the selected Item Pops up on pressing 'F2' key on the Item that needs to be replaced.
- All the above stated **manipulations take a few seconds** to execute. Thus is a big boost for the Negotiator. As he does not have to do a re-costing and go through those brain storming calculations all over again.

The Fabrication Module

The Standard Fabrication Module

In this section the Pillar-wise cost for all types of pillars is fed, similarly the various Bus-Bar costs and wiring costs as per the fixed standards are pre-fed through the fabrication master module. All that the user needs to do is to select the desired pillar, its quantity, Busbar and its qty, wiring type and the quantity as per the BOQ of the Panel.

| Dimension (HxWxD) mm | Description | Rate |
|----------------------|-------------|-------|
| 2275 x 1100 x 400 | | 13000 |
| 2275 x 1900 x 400 | | 26000 |
| 2275 x 2800 x 400 | | 39000 |
| 2275 x 3600 x 400 | | 52000 |

| Description | Qty |
|---|-----|
| 7.5 HP DOL STARTER # 1 | 1 |
| I/C # 1 | 1 |
| METERING-RISHABH # 1 | 1 |
| O/G # 1 | 1 |
| 12A Pier Contactor TP Type MN12 AC3 (1NC) | 1 |
| 0.15-0.25A DL Relay Type MLI (Contactor) | 1 |
| 32A MCB TP Type C 10KA | 1 |

The Calculate Fabrication Module

| Unit | Length | Height | Depth | Verticals | Horizontals | Fasces | Sheet | Thickness | Density | Factor |
|------|--------|--------|-------|-----------|-------------|--------|-------|-----------|---------|--------|
| mm | 5808 | 2100 | 808 | 5 | 8 | 1 | MS | 2 | 7.33 | 1 |

Sheet Cost Section

Here the total sheet surface area is calculated based on inputs of height, depth, length (of the vertical section) and no of verticals, horizontals, mounting plates being used through out the Panel. Once thickness of the sheet is specified it auto calculates volume multiplies with density of MS and then further multiplied by rate /Kg to attain the total sheet cost.

Bus Bar Section

In this the Cost of unit meter length of bus bars for all ratings of current for both aluminum and copper is auto calculated on basis of the rate of Al/Cu per kg and the derating factor considered for the metals.

Wiring & Labor Section

Here the standard costs of unit wiring (eg. Metering, DOL Starter) is pre fed. Similarly, unit wise labor component is also fed. During calculations only the no. of units and the wiring / labor type is selected.

Bus Bar Section

| Metal | Rating | Conductivity | Rate/Mtr | Length | Amount | Qty | Total Amount |
|-------|--------|--------------|----------|--------|--------|-----|--------------|
| AL | 1000 | 1 | 282 | 1 | 282 | 3.5 | 997 |

Wiring Section

| Wiring Type | Cost / Unit | Qty | Amount |
|-------------|-------------|-----|--------|
| Wiring2 | 2000 | 5 | 10000 |

| Labour Type | Cost / Unit | Qty | Amount |
|-------------|-------------|-----|--------|
| Labour1 | 1000 | 1 | 1000 |

System Requirements

Hardware Requirements

A minimum of Pentium 4(1.8 GHz) Processor with 512 MB RAM (for optimum performance)

Operating System Requirements

Any Windows OS above Win 95

Technical Details

Front End - Visual Basic 6.0

Back End – MSDE (Microsoft Desktop Engine – Non Proprietary)

Reporting Tool - Microsoft Excel