



Innovative Concepts

Where your dreams become reality



PCB Manufacturing System Overview

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- System Objective
- System Overview
- KENGLINK
- Quotation
- Production Planning

System Objective

System design primary objective

- Improve efficiency;
- Improve quality;
- Provide sales faster turn around in pricing; and
- Enhance company competitiveness.

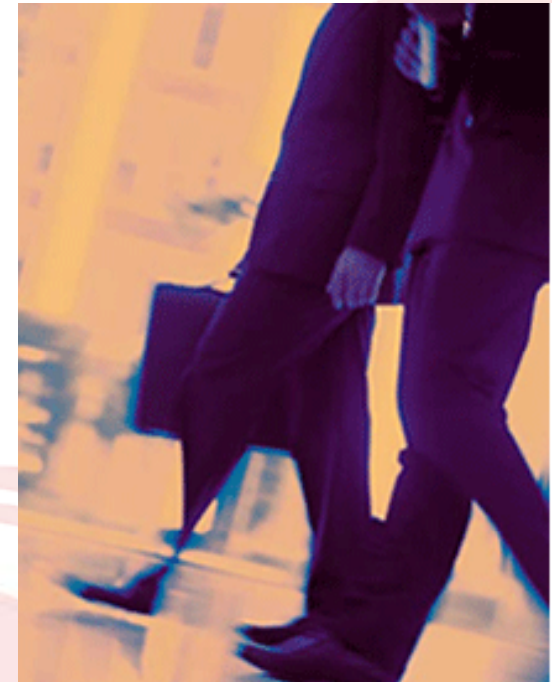


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System Overview

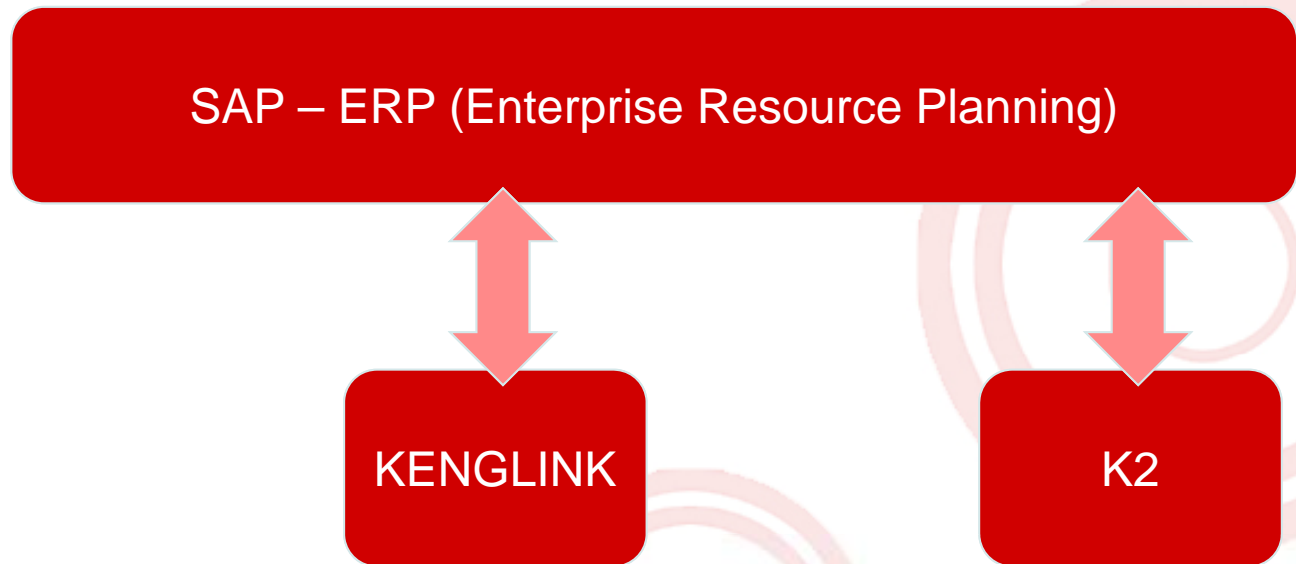
SAP – ERP (Enterprise Resource Planning)

K2

K2 (Production Monitoring)

- Quality
- Time of Manufacturing

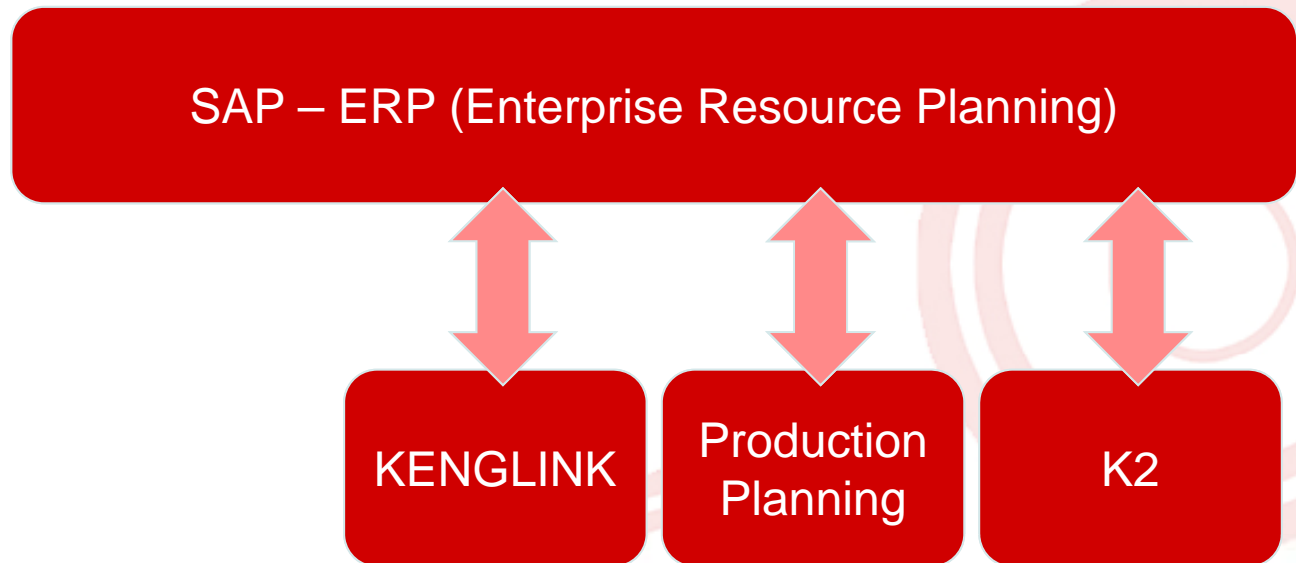
System Overview



KENGLINK (Replace existing engineering system)

- Define the manufacture routing process
- Identify the job and sub job
- Develop all the necessary paperwork to go with the job
- Generate the BOM and send the information to SAP

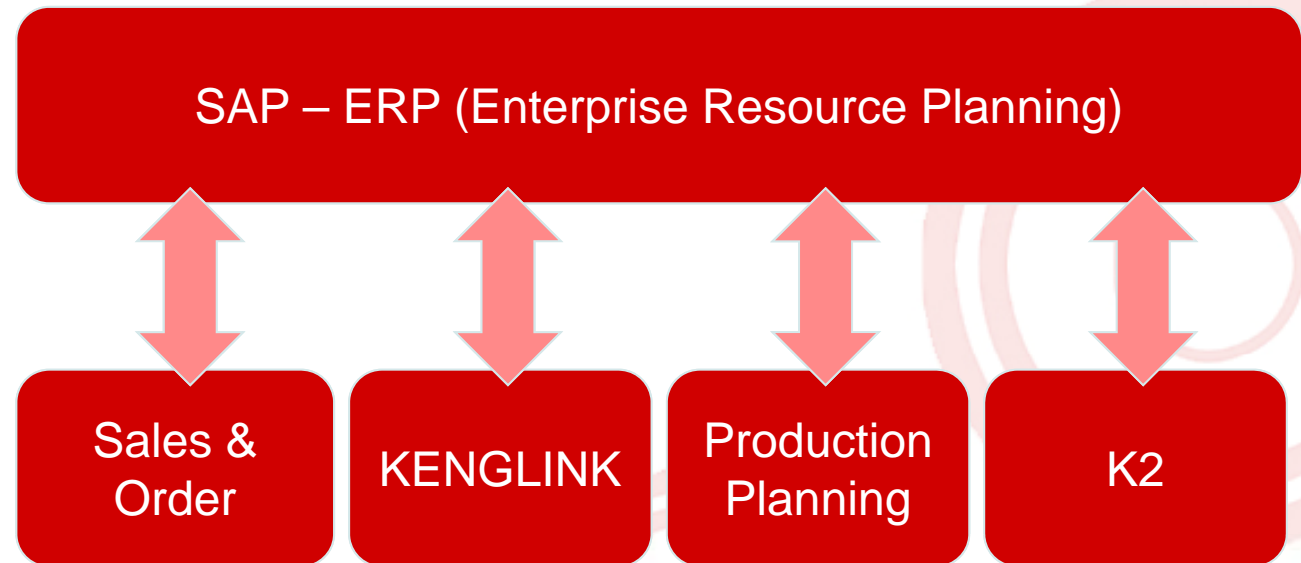
System Overview



Production Planning

- Factory utilization information
- Job planning for each process and assign the correct machine to it
- Support preventative maintenance on the machines
- Provide production plan in Gantt chart format
- Interface with KENLINK

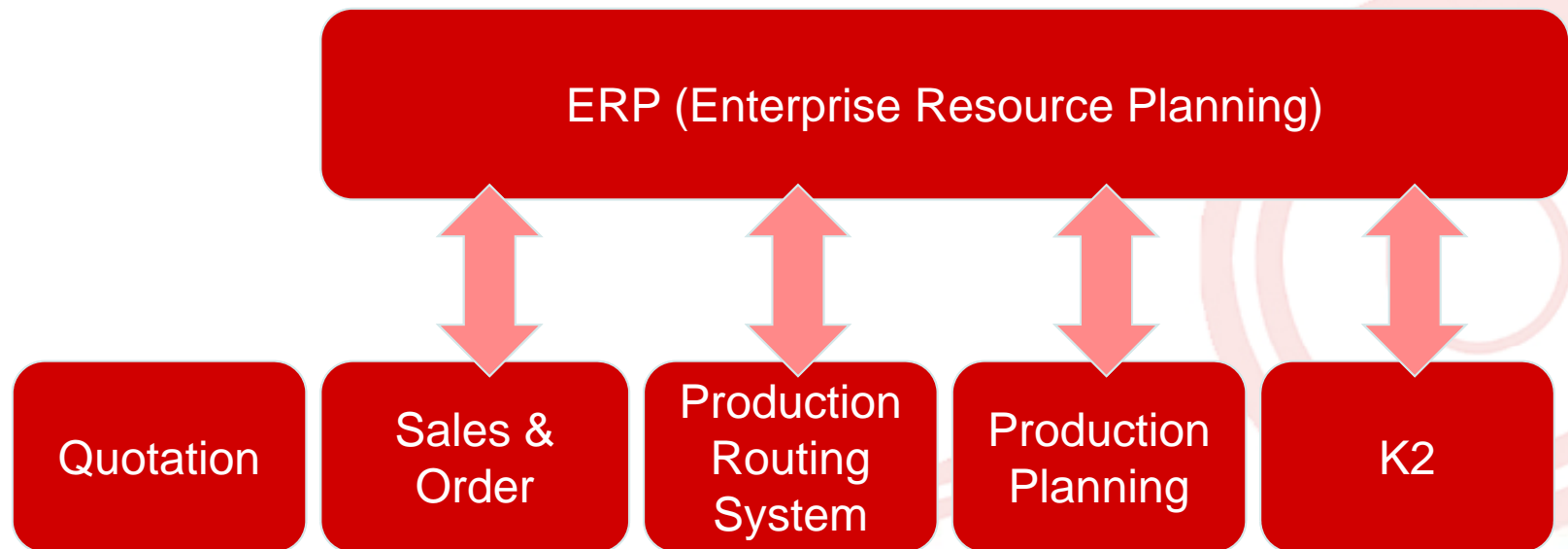
System Overview



Sales & Order (Yet to start)

- Take the quotation and feed the job into KENGLINK
- Allow the tracking of the order by the production planning system
- Monitor production scheduling and estimated delivery date

System Overview



Quotation

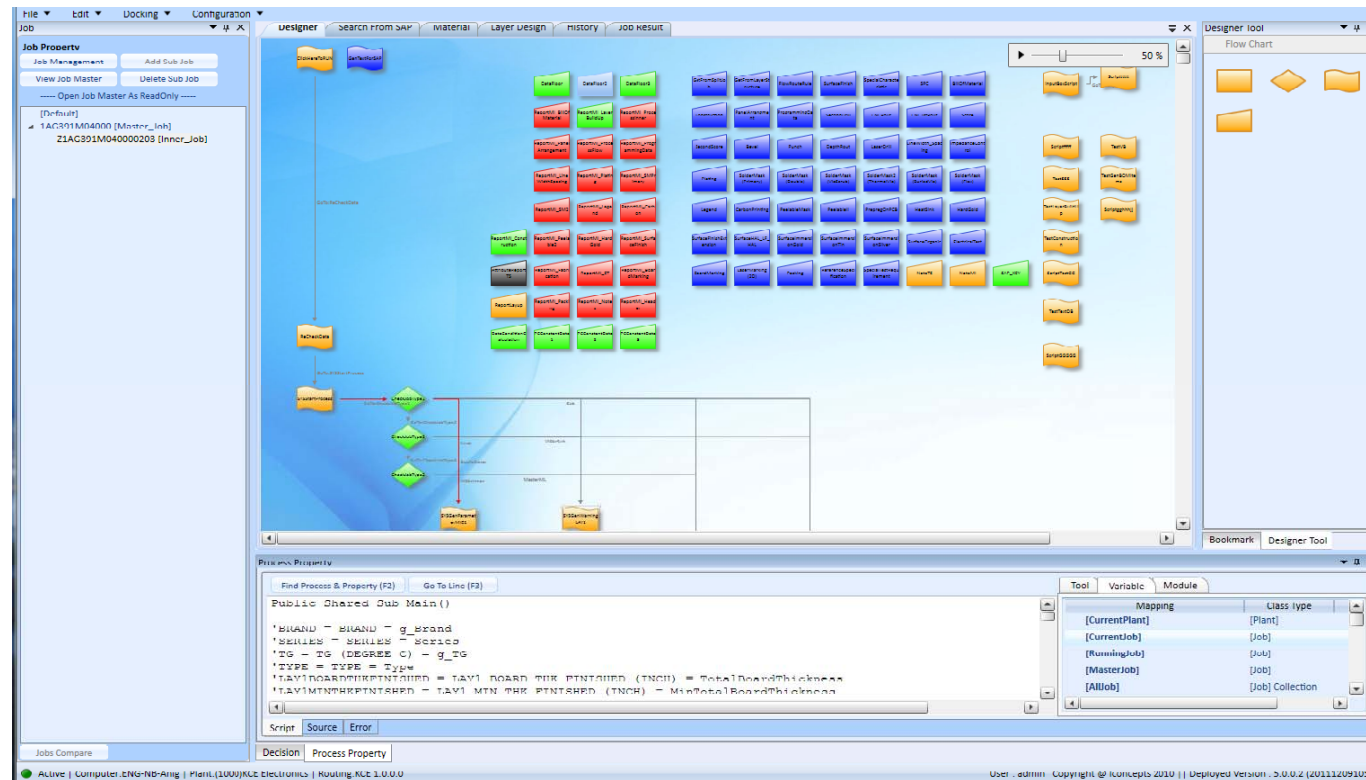
- Accept any RFQ template, one for each customer
- Quick board layout design options
- Manage multiple quotations

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- Production Routing System
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Routing Designer



The most flexible routing design software in the world allows you to

- Write your own scripts and create your own workflow
- Develop your own machine process and job management

Layer Design

The screenshot displays a software window titled "Layer Design" with a menu bar including "Designer", "Search From SAP", "Material", "Layer Design", "History", and "Job Result". The main area shows a stack of 11 layers with labels on the right: SM_COM, COM, PH1080H, L2, LM021117E, L3, PH1080H, SOL, and SM_SOL. Two vertical black bars labeled "DRILL" and "ROUT" are overlaid on the layers. A "Mode" dropdown is set to "Layer" and a "Create Drilling" button is visible. On the right, a "Property" table lists various parameters for the selected layer.

ODB Name : 1ag391m04621
DRC Area Copper Sel : FORM

Mode : Layer Create Drilling

Name	Value
Name	COM
Order	1.000
Layer Type	COPPER
Copper Type	MIXED
Copper Weight(Oz.)	0.500
Height(mils)(Auto)	0.689
Copper Area(Sq.incl)	53.775
Copper Dummy Are	0.000
Tolerance in% (Widt)	False
Tolerance in% (Spac)	False
Line Width(mils)	5.906
Max Line Tol +	1.770
Min Line Tol -	1.770
Line Space(mils)	5.906
Max Space Tol +	1.770
Min Space Tol -	1.770
Circuit To Circuit(mi)	5.906
Pad To Circuit(mils)	9.804
Pad To Pad(mils)	8.268
Max Line Width(mil)	7.676
Min Line Width(mil)	4.136
Max Line Space(mil)	7.676

Input an ODB design file and outputs

- The layer designs
- The job and sub job

Report – MI and Traveler Sheet

Job Routing Result

Routing Table Warning Approval Information Report

Choose Report: MI Sheet

1 of 5 100% Find | Next

Manufacturing Instruction Sheets : MI Sheet
TopLayer COM / SOL Page : 1 of 5

KCE P/N : Report000001 Rev : Issue : Ref.Doc : MI-Report000
Date : 2/11/2011

Job Routing Result

Routing Table Warning Approval Information Report

Choose Report: Production Traveller (Routing)

1 of 4 100% Find | Next

Electronics Company Page : 1
11/02/2011 16:56:25

PRODUCTION TRAVELLER (Routing)

Customer : 2.399	Order Type : 2.399
Part Number : 2.399	Production Order : 2.399
Part Description : 2.399	Part Revision : 2.399
BOM Number : 2.399	BOM Revision : 2.399
Plant : 2.399	Catalog Group : 2.399
Work order : 2.399	Total lot : 2.399
QTY.Sch : 2.399	Total PNL : 2.399
Array.Sch : 2.399	Inspection lot : 2.399
PCS.Sch : 2.399	ISSUE By : 2.399
Sale order : 2.399	Last Modified By : 2.399
Purchase order : 2.399	Modified Date : 2.399

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Design Any RFQ Template

REQUEST FOR QUOTATION	
RFQ Date :	04/11/2010
RFQ Number :	A10-637
RFQ Rev. :	
Sales Rep. :	KCEA
Entered By :	Ledz Diloy
Email :	
Customer Name :	Sony
Market Sector :	Commercial
OEM Name :	
Product Sector :	
Part Number :	64647
Rev. :	Commercial
Product Application :	GPS
Up Rev./ Similar P/N :	
KIQ No. :	Test
Price (Panel,Piece) :	Piece
Currency (US\$,Euro) :	US\$
Quantity per Year :	100,000

- Design customer template
- Import RFQ

File Configuration

Import RFQ Panelization Sub Panelization Cust Template Final Price Print Preview

Transaction

Transaction No : IBAAS20110118T102031 Base on Templates : KCEA Original Name : Create Date : 18/01/2011 10:21 Update Date : 19/01/2011 13:47

Serial NO : RevisionType : X Revision : 004 Issue : 04

Refresh Mapping Value
View Exchange Rate

Properties

RFQ	Customer	Price& Ship	Layer	PCB	Other
Name	Value	Unit	Comment	Exception	
RFQ_Date	11/4/2010				Have no mapping value.
RFQ_Number	A10-637				Have no mapping value.
RFQ_Rev					Have no mapping value.
Sales_Rep	KCEA				Have no mapping value.
Entered_By	Ledz Diloy				Have no mapping value.
Email					Have no mapping value.
Customer_Name	Samsung				Have no mapping value.
Market_Sector	Commercial				Have no mapping value.
OEM_Name					Have no mapping value.
Product_Sector					Have no mapping value.
Part_Number	64647				Have no mapping value.
Rev	Commercial				Have no mapping value.
Product_Application	GPS				Have no mapping value.
Up_Rev./Similar_P/N					Have no mapping value.
KIQ_No	Test				Have no mapping value.
Price	Piece		Panel,Piece		Have no mapping value.
Currency	US\$		US\$,Euro		Have no mapping value.
Quantity_per_Year	100000				Have no mapping value.

Penalization

File Configuration

Import RFQ Panelization Sub Panelization Cust Template Final Price Print Preview

Config

PANEL SIZE : 22.500 x 16.000 in = 360.000 in²

BOARD SIZE : 9.665 x 6.312 in = 61.005 in²

PART SIZE : 1.800 x 2.000 in = 3.600 in²

BOARD GAP : 0.100 0.100 in : TWO DIRECTION BOARD

PART GAP : 0.000 0.000 in : TWO DIRECTION PART

PANEL BORDER : 3.070 3.276 in

BOARD BORDER : 0.665 0.312 in

LEFT : 0.333 TOP : 0.156 Update Margin

RIGHT : 0.333 BOTTOM : 0.156

BOARD STEP REPEAT : 2 x 2 + 0 = 4 BOARD / PANEL

PART STEP REPEAT : 5 x 3 + 0 = 15 PART / BOARD

% UTILIZATION (BOARD AREA / PANEL AREA) = 67.78%

Draw

Result

Print

The diagram illustrates the layout of parts on a board. The panel dimensions are 22.5 x 16.0 inches. The board dimensions are 9.665 x 6.312 inches. The part dimensions are 1.8 x 2.0 inches. The board is divided into four quadrants, each containing a 2x3 grid of parts. The total number of parts per board is 15. The utilization is 67.78%.

Quotation Form

CUSTOMER : Sony
 P/N : 64647
 APPLICATION : GPS
 DESCRIPTION : 6 LAYER, Imm. Silver TLM 170T
 SPECIAL REQUIREMENT : PUNCH ,SCORE
 MATERIAL : 0.7 MM
 BOARD DIMENSION : NaN X NaN INCH ARRAY FORM: Na
 HOLE NUMBER : SMALLEST HOLE: NaN MM HOLE DENSE: 1
 MINIMUM LINE WIDTH: NaN mil SMT : NaN mil BGA: NaN mil
 SM: 2 SIDES COLOR: PCS/SHIP SHEET PRICE TERM
 S/L: NaN SIDES COLOR: NaN 10000
 ENIG : NaN um./Ni: 5 uM i(RFQ
 G/F AREA : uIn/Ni: 150 uIn i(RF
 GOLD FINGER CHARGE: 1.5574 NaN
 NaN
 SCRAP
 UNIT : USS/h
 BOARD : USS-pcs
 EXCHANGE

S/N : 2011/0000
 DATE : {RFQ.quo
 REF : A10-637
 X-out:
 KQ ISSUE: KQ TYP1

KQ REV.:
 KQ ISSUE:

SET UP CHARGE : USS
 ET CHARGE : USS

PREPARED By user Date
 VERIFIED By power user Date
 APPROVED By admin Date

- Create quotation form
- Manage quotation and final price

File Configuration

Import RFQ Panelization Sub Panelization Cust Template Final Price Print Preview

Name	PCS/SHP	SHEET	QF	Price	Shipping	Final Price
Quantity_per_Ship1	10,000.000	625.000	3.000	251,171.869	3.300	259,460.541
Quantity_per_Ship2	8,000.000	500.000	3.000	251,171.869	3.300	259,460.541
Quantity_per_Ship3	2,500.000	156.250	2.850	238,613.276	3.300	246,487.514
Quantity_per_Ship4	120,000.000	7,500.000	3.000	251,171.869	3.300	259,460.541

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Production Planning

- Auto run production
- Auto distribution
- Import job in the queue

The screenshot displays a production planning software interface with several key components:

- Workflow Diagram (DRILLING*):** A flowchart showing the production process. It starts with 'DRILLING' leading to a 'HasLookup' decision. From 'HasLookup', the flow branches into 'Case 1' (leading to 'Lookup') and 'Case 2' (leading to 'Lookup2'). 'Lookup2' leads to 'Decision1'. 'Decision1' branches into 'FAC 1' (leading to 'Gol_F1') and 'Giga_F1'. 'Gol_F1' leads to 'Golden_Z4' and 'Golden_Z5'. 'Giga_F1' leads to 'Giga_Z1', 'Giga_Z2', and 'Giga_Z3'. There is also a 'Decision3' node connected to 'Gol_F1' and 'Giga_F1'.
- Work Order List:** A table listing work orders with columns for Job Name, WO, Qty, and Runtime Qty.

Job Name	WO	Qty	Runtime Qty
5072M06005	78601	15.00	15.00
4566F04205	78568	9.00	9.00
2798M04181	78724	80.00	80.00
5004M06094	78244	100.00	100.00
5004M06094	78274	17.00	17.00
3948M06396	78718	187.00	187.00
3948M06395	78609	1,100.00	1,100.00
3948M06395	78705	1,602.00	1,602.00
3948M04686	78537	93.00	93.00
3948M04686	78675	1,001.00	1,001.00
3948M04653	78674	999.00	999.00
3948M04653	78584	342.00	342.00
3948M04515	78693	348.00	348.00
3948M04515	78723	48.00	48.00
3948M04515	78738	3,294.00	3,294.00
3948M04515	78737	1,400.00	1,400.00
- Machine List:** A table listing active machines with columns for Name, Start(t), and End(t).

Active	Name	Start(t)	End(t)
✓	SCHM_Z7_W66	12/11/2010 06:00:00	12/11/2010 06:00:00
✓	SCHM_Z7_W67	12/11/2010 06:00:00	12/11/2010 06:00:00
✓	SCHM_Z7_W68	12/11/2010 06:00:00	12/11/2010 06:00:00
✓	SCHM_Z7_W69	12/11/2010 06:00:00	12/11/2010 06:00:00
✓	SCHM_Z7_W70	12/11/2010 06:00:00	12/11/2010 06:00:00
✓	SCHM_Z7_W71	12/11/2010 06:00:00	12/11/2010 06:00:00
✓	SCHM_Z7_W72	12/11/2010 06:00:00	12/11/2010 06:00:00
✓	SCHM_Z7_W73	12/11/2010 06:00:00	12/11/2010 06:00:00
✓	SCHM_Z7_W74	12/11/2010 06:00:00	12/11/2010 06:00:00
✓	SCHM_Z7_W75	12/11/2010 06:00:00	12/11/2010 06:00:00
✓	SCHM_Z7_W76	12/11/2010 06:00:00	12/11/2010 06:00:00
- Output:** A table showing the output of the production process, including Job Name, WO, Model, Machine, and Start Time.

Job Name	WO	Model	Machine	Start Time
5072M06005	78601	SCHM_Z7	SCHM_Z7_W66	12/11/2010 06:00:00
5004M06094	78244	SCHM_Z7	SCHM_Z7_W66	12/11/2010 06:00:00
5004M06094	78274	SCHM_Z7	SCHM_Z7_W66	12/11/2010 06:00:00
3948M06395	78609	SCHM_Z7	SCHM_Z7_W66	12/11/2010 06:00:00
- Property and Machine Property:** Panels for editing and viewing properties of cases and machines.

Preventive Maintenance

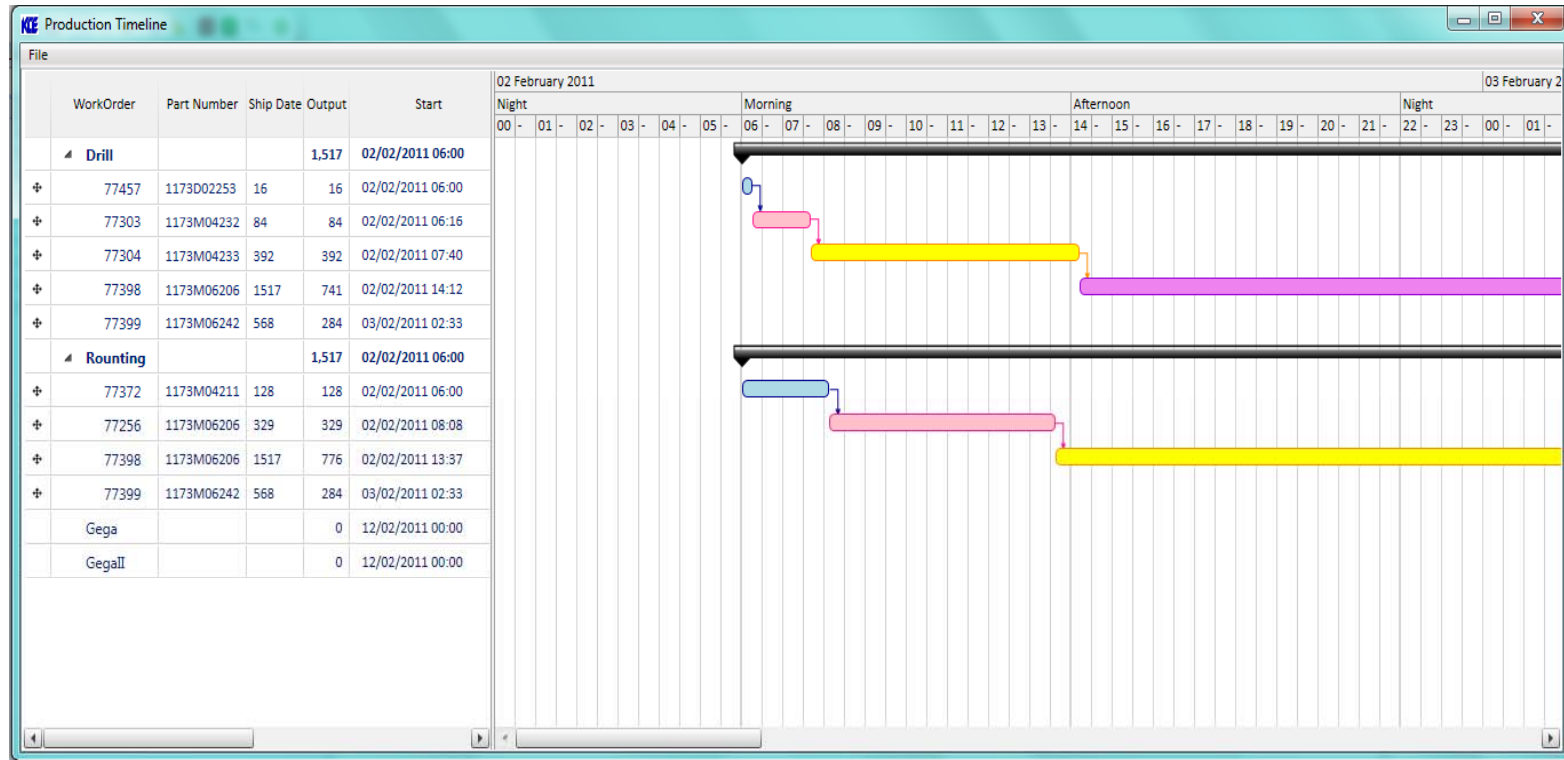
- Planning by schedule
- Planning for multi machine

Task	Start	Effort
Drill	01/01/2011 00:00	13:00:05
WEEKLY	02/01/2011 00:00	13:00:00

The screenshot displays a software interface for preventive maintenance planning. It features a task list on the left and a Gantt chart on the right. The task list includes a 'Drill' task with a start date of 01/01/2011 00:00 and an effort of 13:00:05, and a 'WEEKLY' task with a start date of 02/01/2011 00:00 and an effort of 13:00:00. The Gantt chart shows a timeline for the year 2011, with a bar representing the 'WEEKLY' task starting on 02/01/2011 and ending on 01/09/2011. The interface also shows a sidebar with categories like 'Rounting', 'Gega', and 'Gegall'.

Task	Start	Effort
Drill	01/01/2011 00:00	13:00:05
WEEKLY	02/01/2011 00:00	13:00:00
Drill#0	02/01/2011 00:00	01:00:00
Drill#1	09/01/2011 08:00	01:00:00
Drill#2	16/01/2011 08:00	01:00:00
Drill#3	23/01/2011 08:00	01:00:00
Drill#4	30/01/2011 08:00	01:00:00
Drill#5	06/02/2011 08:00	01:00:00
Drill#6	13/02/2011 08:00	01:00:00
Drill#7	20/02/2011 08:00	01:00:00
Drill#8	27/02/2011 08:00	01:00:00
Drill#9	06/03/2011 08:00	01:00:00
Drill#10	13/03/2011 08:00	01:00:00

Gantt Chart



- Multiple Process View
- Multiple Job View
- Multiple Day View

Factory Utilization

KCE Job Monitor

Job List Monitor

Machine	WO Qty	Result QTY	Runtime (Minute)	Start(t)	End(t)	Output per cycle	Cycle time	Setup time
Job name: 1173D02253 Work order: 77457								
Rounting	16	16	34	2/12/2011 6:00:00 AM	2/12/2011 6:34:00 AM	18	38.000	25
Total		16	34					
Job name: 1173M04211 Work order: 77372								
Rounting	128	128	196	2/12/2011 6:34:00 AM	2/12/2011 9:50:00 AM	36	55.000	25
Total		128	196					
Job name: 1173M04232 Work order: 77372								
Rounting	8	8	12	2/12/2011 6:00:00 AM	2/12/2011 6:12:00 AM	15	37.500	25
Total		8	12					
Job name: 1173M04233 Work order: 77372								
Gegall	35	35	525	2/12/2011 6:00:00 AM	2/12/2011 2:25:00 AM	24	75.000	25
Total		35	525					
Job name: 1173M06206 Work order: 77372								
Drill	32	32	4,816	2/12/2011 6:00:00 AM	2/17/2011 12:49:00 PM	8	185.000	25
Total		32	4,816					
Job name: 1173M06206 Work order: 77372								
Gegall	1,517	629	14,546	2/12/2011 6:00:00 AM	2/22/2011 8:26:00 AM	8	185.000	25
Total		629	14,546					

- Job Monitor
- Machine Monitor

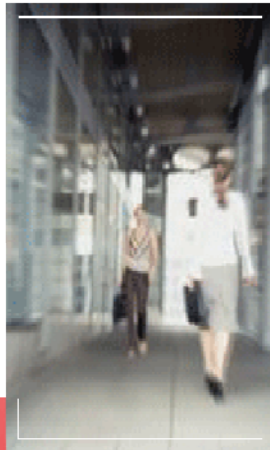
KCE Machine Monitor

Machine List Monitor

Job Name	WO Qty	Result QTY	Runtime (Minute)	Runtime(%)	Start(t)	End(t)	Output per cycle	Cycle time	Setup time
Drill									
1173M06206	329	329	7,609	528.40 %	2/12/2011 6:00:00 AM	2/17/2011 12:49:00 PM	8	185.000	25
Total		329	7,634	530.14 %					
Rounting									
1173D02253	16	16	34	2.36 %	2/12/2011 6:00:00 AM	2/12/2011 6:34:00 AM	18	38.000	25
1173M04211	128	128	196	13.61 %	2/12/2011 6:34:00 AM	2/12/2011 9:50:00 AM	36	55.000	25
1173M04232	84	84	1,144	79.44 %	2/12/2011 9:50:00 AM	2/13/2011 4:54:00 AM	18	245.000	25
Total		228	1,449	100.63 %					
Gega									
1173M06206	1,517	629	14,546	1,010.14 %	2/12/2011 6:00:00 AM	2/22/2011 8:26:00 AM	8	185.000	25
Total		629	14,571	1,011.88 %					
Gegall									
1173M04233	392	392	1,225	85.07 %	2/12/2011 6:00:00 AM	2/13/2011 2:25:00 AM	24	75.000	25
1173M06206	1,517	888	13,690	950.69 %	2/13/2011 2:25:00 AM	2/22/2011 2:35:00 PM	12	185.000	25
Total		1,280	14,965	1,039.24 %					

Close

Contact Us



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Where your dream become reality

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