



2017 Metalforming Die Design and Simulation
Technology Experience, Chicago IL
VISI Die Quoting and TSTracker/Estimator





Introduction and History

TST provides Sensible Solutions to the Tool & Die industry, packaging CAD/CAM/CAE software, hardware, implementation, planning, training, and support. We offer the world class software applications for the tooling industry. Our product line includes Factory Wiz DNC™, PEPS™, DYNAFORM, TST Custom Applications, as well as our core product, the world-class VISI-Series™ software.

About Us:

- TST was founded in 2001 and has several locations in North America.
- We are The Master distributor of VISI / PEPS for the US and Canada.
- TST Supports, Services, Trains and Sells VISI / PEPS.
- TST also develops applications that work with in the VISI interface like TSTFixture, TSTracker, RAM EDM, and TST Estimator.

We are the complete Software Solutions provider for the Tooling Industry.



TST Products

TST Currently Sells and Supports the
Following Products:

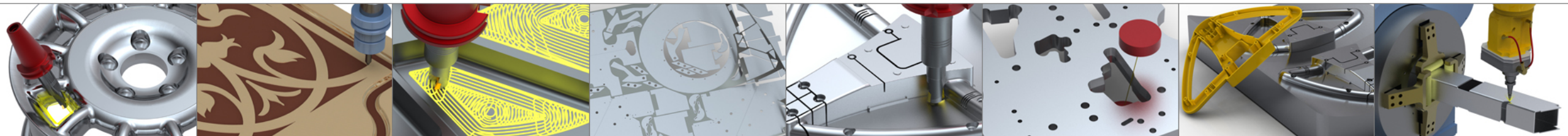
visi peps

 **DYNAFORM**^{eta/®}

 **FactoryWiz™ DNC**

 **CCE**[™]

 **REGISTERED
PARTNER**



VERO Software 2017



- Vero Software is a world leader in CAD CAM software with a proven track record of reliable product delivery. Vero develops and distributes software for aiding the design and manufacturing processes, providing solutions for the tooling, production engineering, sheet metal, metal fabrication, stone and woodworking industries.
- In August of 2014 Vero Software was acquired by Hexagon Metrology.

A Part of



TST Product Lines



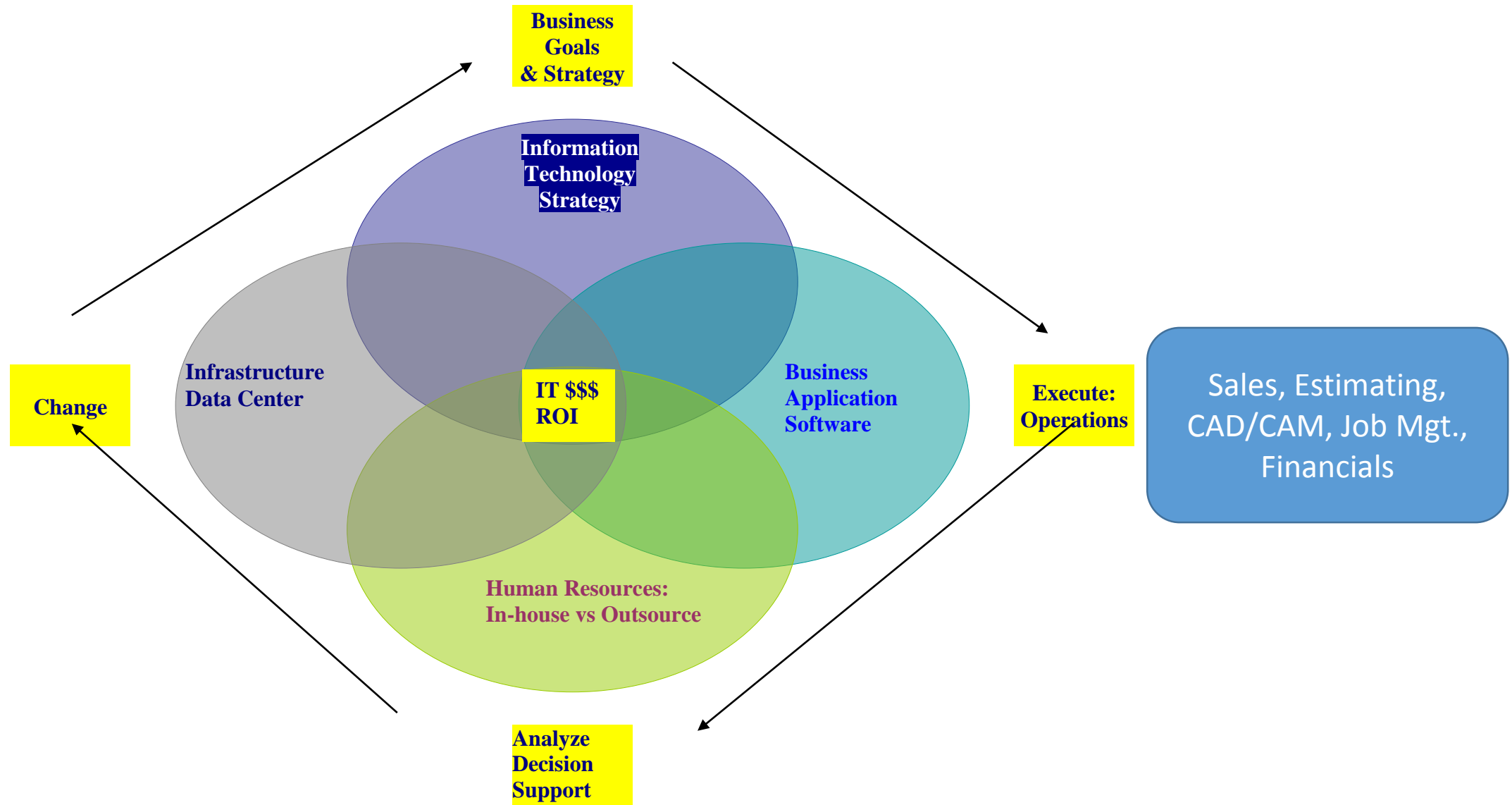
- VISI Modeling
- VISI Mold
- VISI Flow
- VISI Electrode
- VISI Progress
- VISI Machining 2-5 Axis
- VISI PEPS Wire
- VISI Blank
- VISI Reverse
- VISI Deformation & Springback



- PEPS Pentacut
- PEPS Tubecut
- PEPS Laser 2-5 Axis



- TSTTracker
- TST Estimator
- TST RAM EDM
- TST FIXTURE Gauge



Best in class performer's (Aberdeen Group)

- 96% achieve accurate & timely development of job quotations
 - Via standardized quoting & design process
- 97% hit cost targets for manufacturing costs
 - By capturing job related transactions and tool design knowledge
- 99% deliver tooling to customer on time
 - Utilization of key tools & discipline to manage job “project”
 - The longer the job the higher the cost
 - Shorter delivery times enables opportunity to increase # of jobs & revenue

Industry pains, issues, & opportunities

- Ability to estimate fast, accurate, and profitably in a growth market
- Controlling labor & burden costs for critical operations
 - Sales engineering/estimating, management, shop floor work centers
- Maximizing profits in a highly competitive economy
- JIT job costing/P&L: Proactive vs. Reactive
- Time consuming practices to gather, enter, process, & analyze data
 - SILO's, "brainware" vs. software, redundancy
- Optimize 4M's: Manpower, materials, machines, & money
 - "Informate" Information Automation
- Challenge of determining & enabling KPI's:
 - % of, average of, # of, Value of, total of, cost of, sum of
 - Most/least profitable jobs, customer's, part's; material & labor %'s

Software Investment Decision Criteria

- ___ Vendor Support
- ___ Features & Functionality
- ___ TCO-total cost of ownership
- ___ Ease-of-Use
- ___ Agility/Flexibility
- ___ Speed of Deployment
- ___ Education & Training
- ___ IT Architecture/Platform fit

(rank in order of importance 1 through 8)

TSTracker Software Overview

Customer
RFQ

Estimating/
Quote Mgt.

(CAD)
integration

Job P&L
Closeout,
History

Job Status:
Est. vs. Actual,
% complete

3rd Party Accounting Software:
Gen. Led., A/P, A/R, Payroll

Job Approval
Work Order,
Kickoff

Electronic
Customer
Job Folders

Labor Time
Entry

Shipper's &
Receiver's

BOM,
Supplier
RFQ's & PO's

(CAD)
integration

E-mail, Integrated MS Foldering, LAN-WAN
Key Performance Reports,

TSTracker Software Highlights:

- Designed and developed by industry experts specifically for Die Shops
- **Ease-of-use:** simple to navigate, drop-downs, check boxes, column sorts, search, filters, logical flow(tabs)
- **Functionality:** centralized MS SQL relational database—Performance, Scalability, & Secure. Fully automated and integrated—One relational database vs. silo's
- **Flexible:** user-defined table driven, auto-populate values, add/edit/on the fly, user defined roles
- **Integration** (CAD), real-time processing, E-mail, MS Foldering, & more
- **Single vendor** product solution: “no finger pointing”
- Implementation Services, Custom Enhancements, Technical Support/Help Desk, on-site training, & R&D

User Defined Tables:

- *Your language & values
- *Less data entry time
- *Less data entry error's
- *Can still edit on the fly
- *Maximum flexibility

The screenshot displays a software interface with a navigation bar at the top containing icons for Jobs, Quotes, Time, Customers, and Admin. The main content area is divided into three sections: Operations, Work Centers, and Employees. The Operations section contains a table with columns for Operation and Shortcut. The Work Centers section contains a table with columns for WorkCenter, Labor, and ShortCut. The Employees section contains a table with columns for PartyID, FirstName, LastName, and WorkGroup. An 'Add New User' button is located in the top right corner of the Employees section. Below the Operations table is a 'Labor Categories' section with a list of categories.








Operation	Shortcut
Core	0
Cavity	1
Slides	2
Lifters	3
Plates	4
Pins & Bushings	5
Other	6

WorkCenter	Labor	ShortCut
Design	Design	1
OKK1	CNC	2
OKK2	CNC	3
Drill Press	Assembly	4
Surfacing	Design	5
GunDrill	Tryout	6

PartyID	FirstName	LastName	WorkGroup
1	Jeff	K	Admin
10	Joe	Smith	
11	Bom	Smith	JobLdr
12	Peter	Davison	ProgMgr
13	Alex	Wilson	
14	Jeff	Kepran	ProgMgr
15	n/a		JobLdr
16	Jeo	user	

Name
Assembly
CMM
CNC
Design
EDM
Electrodes
Misc.
Polish
Tool Pathing
Tryout

Create Quote: General Info tab

Quote #		21691		Total Price		\$0.00	
Rounding		100					
General	Blank	Die Set	Material	Labor	Other Costs		
Quote Type		Design & Build					
Requested	6/1/2017		RFQ				
Quote Due	6/8/2017		Salesperson				
Expiry Date	6/15/2017		Timing				
Customer							
Name	TST						
Contact	Danielle Moit						
Address	6547 Dixie Hwy Clarkston, MI 48346						
Phone	248-922-9293	Fax	248-922-9323				
Display Units							
<input checked="" type="radio"/> Inches		<input type="radio"/> Metric					
Notes/Description <input type="checkbox"/> Use template							
<div style="border: 1px solid black; height: 100px;"></div>							
New	Save & New	Create Quote	Cancel	Email			

Create Quote: Blank Tab

- Manually enter values or use a CAD software to retrieve pitch and width values
 - For 2-out dies, can use “Setup Part” to copy/mirror blank (as shown in snapshot).
- Or, search job/quote from tracker database and import values from a similar part
- Select part material from database and determine stock thickness
- Add a description, file location, part and program numbers
- Add snapshots from CAD software or load images to add to quote

Quote # Total Price
Rounding


General Blank Die Set Material Labor Other Costs

Pitch Part Material
Width
 Part Material Thickness

Description
File
Part # Program #

Images:

1
 2
 3
 4



Notes/Description Use template

Create Quote: Die Set tab

Job #	Sq in	# Stations	Quoted Cost	Profit/Loss
8487	2400	15	97800	5000
3587	1560	15	75200	2500
1348	2000	12	100500	-1000
3756	1480	10	67800	860

- Jobs
- Quotes
- Search Criteria:**
- Tool Square inches
- # Stations
- Part Description
- Material Costs
- Labor Costs
- Customer
- Material Type
-
- Auto-populate values

Quote #
21691
Total Price
\$20,000

Rounding 100

General
Blank
Die Set
Material
Labor
Other Costs

of Stations

Stop Block Height

Stock Length

Extra Length

Tool Length

Stock Width

Extra Width

Tool Width

#	Station Type	Material	Multiplier	Cost
1	Pierce	Steel	1	323
2	Trim	Steel	0.95	307
3	Trim	Steel	0.95	307
4	Flange	Aluminum	1.15	372

Upper Block

Material

Height

Lower Block

Material

Height

Stations total cost

Block total cost

Combined cost

Square inches

Tonnage

Shut height

Notes/Description Use template

Create Quote:

Materials tab

- Enter in extra purchasable items
- Adjustable/reactive material/labor cost ratio
- Total material from blocks and stations, plus sum of purchased items
- Preview estimate of total labor cost

Quote # Total Price
Rounding

General Blank Die Set **Material** Labor Other Costs

Purchased items

Item	Price	Quantity	Cost
Sensors	400.00	1	400.00
Nitrogen cylinders	250.00	6	1500.00

Material/Labor Cost Ratio Total

Material Labor Total Material
Estimated Total Labor

Notes/Description Use template

Create Quote: Labor tab

- Rates and Percentages are set in database configurator. Total labor cost is based on material cost. Total labor cost is divided up by percentages on labor categories
- Hours can be manually overridden—percentages provide fast estimate
- Adjustable/reactive material/labor cost ratio
- % Adjustment available for discounts/markups

Quote # Total Price
 Rounding

General Blank Die Set Material Labor Other Costs

Estimated hours for each of the main categories of time

Name	Manual Rate	Manual Hours	Manual Amount	Auto Rate	Auto Hours	Auto Amount	Total	% of Total
Design	\$60.00	100	6000	\$0.00	0	\$0.00	6000	10
Programming	\$60.00	50	3000	\$0.00	0	\$0.00	3000	5
CNC	\$60.00	250	15000	\$0.00	0	\$0.00	15000	25
Manual Mach.	\$70.00	50	3500	\$0.00	0	\$0.00	3500	5
Shop Labor	\$70.00	250	17500	\$0.00	0	\$0.00	17500	25
Assembly	\$65.00	100	6500	\$0.00	0	\$0.00	6500	10
Tryout	\$50.00	100	5000	\$0.00	0	\$0.00	5000	10
EDM	\$60.00	100	6000	\$0.00	0	\$0.00	6000	10

Total Man hrs Total Auto Hrs Total

Material/Labor Cost Ratio Adjustment %

Material Labor Adjustment \$

Notes/Description Use template

Create Quote:

“Other” Costs

- Enter in extra items
- Checkbox to display as line item on quote, with Notes available
- Catch-all tab
- Add Interest:

Interest Calculator

Principle	<input type="text" value="100"/>	Compounding
Rate (%)	<input type="text" value="5"/>	<input checked="" type="radio"/> Yearly
# months	<input type="text" value="6"/>	<input type="radio"/> Twice Yearly
		<input type="radio"/> Quarterly
		<input type="radio"/> Monthly

Result

Total Interest	<input type="text" value="\$2.47"/>
Principle + Interest	<input type="text" value="\$102.47"/>

Quote # Total Price

Rounding

General Blank Die Set Material Labor Other Costs

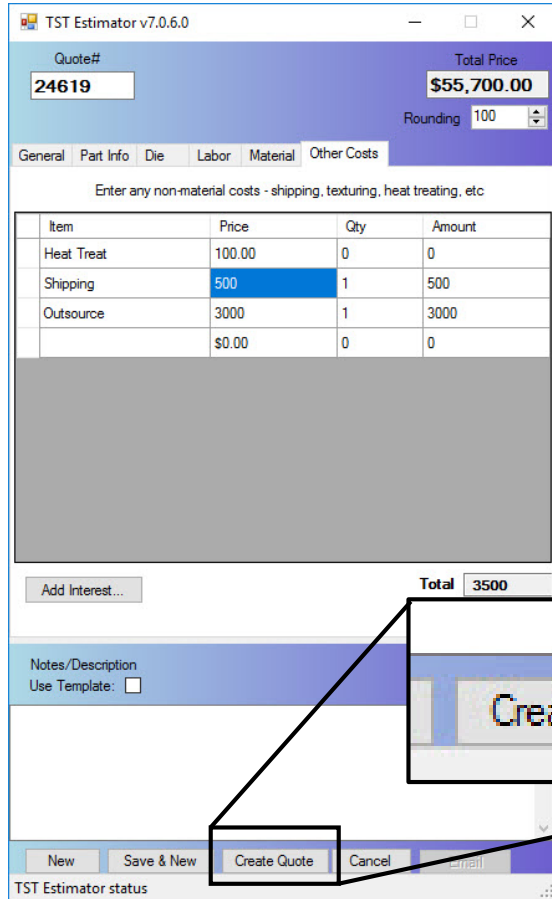
Any non-material costs--shipping, texturing, heat treating, etc.

Item	Price	Quantity	Cost	Display	Notes
Shipping	400.00	0	0	<input type="checkbox"/>	
Outsource	250.00	0	0	<input type="checkbox"/>	
Heat Treat	250.00	1	250.00	<input checked="" type="checkbox"/>	
Blanchard Grinding	150.00	2	300.00	<input type="checkbox"/>	

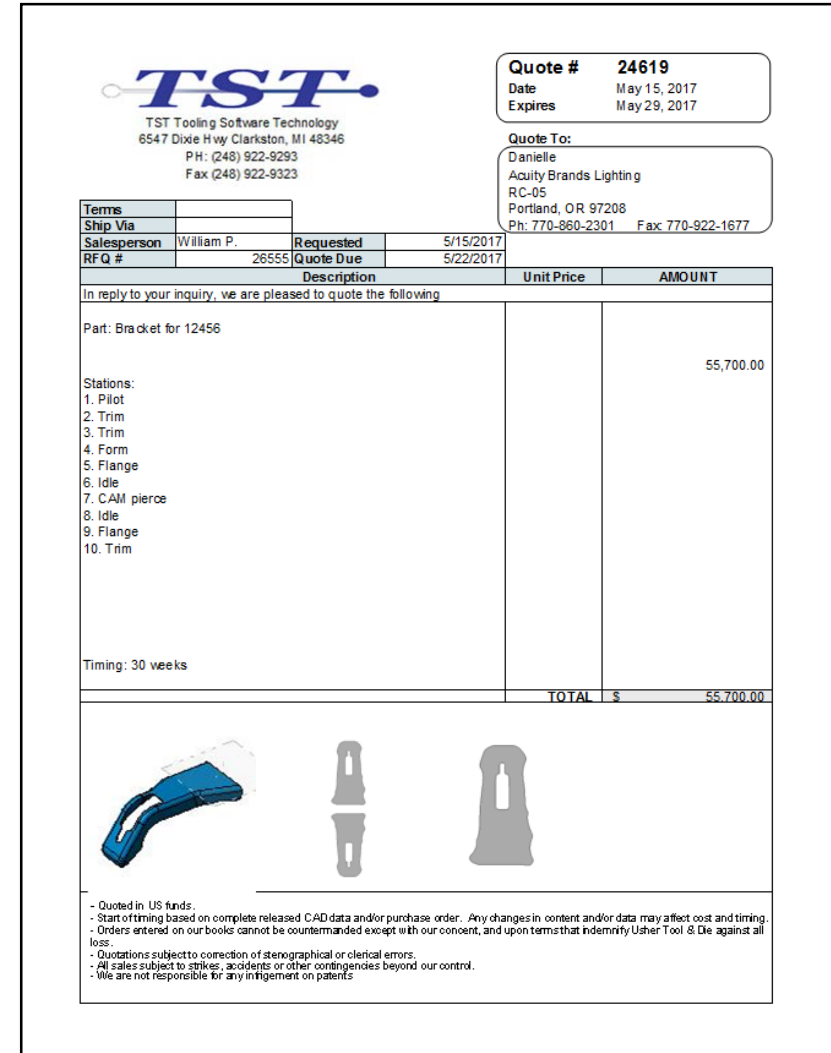
Total

Notes/Description Use template

TSTracker/Estimator



Instantly create a quote that's ready to send to your customer!



TSTracker/Estimator

- Quote cost breakdown
- See full cost breakdown for materials and labor as well as other costs

Summary		Costs		Explorer		
Part 1 Price		Rounding		Quoted Price		
\$40,015.92		100		\$40,100.00		
Labor Costs			Material Costs			
\$35,500.00			\$2,000.00			
LaborName	Manual	Manual Hours	Total Manual Cost	Auto Rate	Auto Hours	Total Auto Cost
Design	65.00	200.00	\$13,000.00	0.01	0.00	\$0.00
CNC	55.00	250.00	\$13,750.00	10.00	0.00	\$0.00
OLD CNC Auto	60.00	0.00	\$0.00	10.00	0.00	\$0.00
New	0.00	0.00	\$0.00	0.00	0.00	\$0.00
Build Up	65.00	50.00	\$3,250.00	0.01	0.00	\$0.00
CMM	65.00	0.00	\$0.00	0.01	0.00	\$0.00
EDM	55.00	100.00	\$5,500.00	10.00	0.00	\$0.00
OLD EDM Auto	55.00	0.00	\$0.00	0.01	0.00	\$0.00
Tool Pathing	65.00	0.00	\$0.00	0.01	0.00	\$0.00
Electrodes	55.00	0.00	\$0.00	10.00	0.00	\$0.00
OLD Electrodes Auto	55.00	0.00	\$0.00	0.01	0.00	\$0.00
Gundrill	55.00	0.00	\$0.00	10.00	0.00	\$0.00
Item	Qty	Price	Total			
Plates	0	0.00	\$0.00			
Components	0	0.00	\$0.00			
Lifters	2	500.00	\$1,000.00			
Slides	0	0.00	\$0.00			
Hot Manifold	4	250.00	\$1,000.00			
Water Manifold	0	0.00	\$0.00			
Tranducers	0	0.00	\$0.00			
Carbon	0	0.00	\$0.00			
Block Cost			Other Costs			
\$2,515.92			\$0.00			
Name	Material	Length	Width	Thickness	Cost	
Core Block	Steel	14.0000	15.0000	7.0000	\$814.09	
Cavity Block	Steel	14.0000	15.0000	7.0000	\$814.09	
Top Clamp	Steel	14.0000	17.5000	1.5000	\$203.52	
Left Rail	Steel	14.0000	2.5000	7.0000	\$135.68	
Right Rail	Steel	14.0000	2.5000	7.0000	\$135.68	
Ejector	Steel	14.0000	12.0000	1.2500	\$116.30	
Ejector Retainer	Steel	14.0000	12.0000	1.0000	\$93.04	
Bottom Clamp	Steel	14.0000	17.5000	1.5000	\$203.52	
Item	Qty	Price	Total			
Sampling	0	0.00	\$0.00			
Texturing	0	0.00	\$0.00			
Heat Treating	0	0.00	\$0.00			
Polish	0	0.00	\$0.00			
Coatings	0	0.00	\$0.00			
Outsourcing	0	0.00	\$0.00			

TSTracker



Tooling Software Technology

6547 Dixie Hwy
Clarkston, MI 48346
Phone 248-922-9293 Fax

Job **01017**

Delivery 5/25/2017

TOOLING WORK ORDER

Customer	TST	Tool Number	
Part Desc	Test bracket	Part Number	321A
Tool Engineer	Danielle Moit	Shrink	0
Program Mgr	Payne, Thomson	Weight	0.0
Job Leader	Melissa, Houston		
Received From	TST	Date	1/30/2017
Return To	Acuity Brands Lighting	Date	9/12/2017

Date	Initiator	Description of Work	Completed	Completed By
4/18/2017	DM	Design		
4/18/2017	DM	CNC		
4/18/2017	DM	Assembly		
4/18/2017	DM	Tryout		
4/18/2017	DM	Ship		

Summary Cost Details Work Order BOM Explorer Reports

BOM Items Total BOM Price \$20,000.00

Dtl. #	Material/Supplier	Qty	Description	Size	Code	PO #	Price	Total Price
1 0	ACROLAB LTD. ...	1		Shipping/Tool Weight: 0.0 ...			0.00	0.00
2 1	P-20	2	Block	20 x 20 x 10	5395309			
3 2	D-M-E	6	Cap Head Screw	1/2 x 4	124CS	14662-001		
4 3	Fastenal	2	Countersunk Screw	5/16x3/4	258			
5 4	D-M-E	1	Locating ring	2.615 x 2	6500	14662-001		
6 1	Block	1	Steel Core			14662-002	200...	20000.00
* 7								

Purchase Orders

PONum	POID	LastExportedDate
14662-001	16472	
14662-002	16473	
14662-003	17472	
14662-004	17473	
14662-005	17474	

PO Details

Company: DME ACCT.#78579 Ordered: 11/17/2014

Contact: Venice McBride Delivery: 11/17/2014

Requester: Seaver, Rick Completed: []

Notes: []

QB Account Number: []

Work Orders

- Import templates
- Know when items were completed and who signed off on them
- Easily created as a PDF

BOM Tab

- Import BOM from CAD/Visi
- Create POs and RFQs
- Export POs to Accounting Software

TSTracker

Summary **Work Order** BOM

Delivery: 9/22/2008 Opened: 7/18/2008 12:31 P Profit/Loss: **\$11,070.78**

% Days Elapsed: 78.79 % Quote #: 405 View

Days Left: 14

Cost & Time Summary

Area	Quoted	Actual
Design	50.00	66.00
CNC	25.00	59.25
Assembly	5.00	45.00
CMM	12.00	0.00
EDM	8.00	0.00
Tryout	0.00	21.00

Labor Cost

Estimated: \$7,460.00
Actual: []

Material Cost

Estimated: \$6,730.00
Actual: 3119.22

Close Job Reopen Job

TST Tooling Software Technology 4/24/2017

5547 Dixie Hwy
Clarkston, MI 48345
Phone 248-922-5293 Fax 248-922-9323

Job Summary: 14662

Customer	TST	Opened	4/21/2017
Part Desc.	Bracket	Delivery	5/26/2017
Part #	2348	Invoice Amt.	\$40,100.00
Tool #		Actual Price	\$26,810.00

Quoted Hours	600	Quoted Labor	\$35,500.00	Quoted Matt.	\$2,000.00
Actual Hours	106.00	Actual Labor	\$6,810.00	Actual Matt.	\$20,000.00

Hours by Operation

Operation	Man Hrs	Man Cost	Auto Hrs	Auto Cost	Rework Hrs	Rework Cost
Cover	36.00	\$2,340.00	0.00	\$0.00	0.00	\$0.00
Ejector	8.00	\$520.00	0.00	\$0.00	0.00	\$0.00
Electrode Mfg.	54.00	\$3,510.00	0.00	\$0.00	0.00	\$0.00
Machine Maintenance/Repair	8.00	\$440.00	0.00	\$0.00	0.00	\$0.00
Totals	106.00	\$6,810.00	0.00	\$0.00	0.00	\$0.00

Hours by Labor Group

Name	Man Hrs	Auto Hrs	Rework
Design	63.00	0.00	0.00
Build Up	35.00	0.00	0.00
EDM	8.00	0.00	0.00
Totals	106.00	0.00	0.00

Job reports

- Graphical format for quick information
- Detailed reports to compare actual vs. quoted for hours, material costs, and labor costs
- Time ticket breakdown by operation and work group

Estimating/ Sales Productivity Increase

Current Estimating metrics			TST Tracker Estimating Software Benefits			
# of estimators	2		Increased estimating productivity			
hours per year	1000		% reduction in average hours per quote	10%		
total estimating hours	2000		New average hours per quote	0.90	54	minutes
			New # of total quotes per hour per estimator	1.11		
# of New Build Die quotes per year per estimator	1000		New Total # quotes per year	2222		
Total quotes per year	2000					
			Potential Increase in # of new jobs awarded			
Average hours per quote	1.00	60	Increase in # of quotes per year	222		
Average # of quotes per hour	1.00		# of new build jobs awarded	55.6		
# of new builds awarded per year	50		Increase in # of new jobs awarded	6		
Average revenue per new job	\$100,000		Increased Revenue & Profit			
Average revenue per year for new jobs	\$5,000,000		Increase in new build job revenue	\$555,556		
Average Profit % per job	15%		Increase in new build profitability	\$83,333		
Average Profit \$ per job	\$15,000					
Average Profit for all new jobs per year	\$750,000					
# of quotes per new build job	40		# of quotes per new build job	40		

Labor Operations Productivity Increase

Current Operations		Operations Productivity Benefits	
# of admin staff	2	Revenue for all job	\$5,000,000
# of managers	3	Profit for all jobs	\$750,000
average cost of admin	\$35,000		
Average cost of manager	\$7,500	estimated cost for all jobs	\$4,250,000
		Less Fixed Costs (40%)	\$1,700,000
estimated total staff/mgt. cost	\$92,500	Equals Variable Cost	\$2,550,000
		Variable cost breakdown:	
# of shop floor laborers	25	material cost %	55%
average cost of shop floor labor	\$50,000	labor cost %	45%
		other cost %	0%
estimated cost of shop floor labor	\$1,250,000		
		labor cost \$\$\$	\$1,147,500
total	\$1,342,500	labor cost per job awarded	\$20,655
		% improvement in labor productivity	3%
		Labor savings	\$34,425

BUSINESS TECHNOLOGY INVESTMENTS COMMON SENSE VS. NONSENSE

“IT IS UNWISE TO PAY TOO MUCH, BUT IT’S WORSE TO PAY TOO LITTLE. WHEN YOU PAY TOO MUCH, YOU LOSE A LITTLE MONEY --- THAT IS ALL. WHEN YOU PAY TO LITTLE, YOU SOMETIMES LOSE EVERYTHING BECAUSE THE THING YOU BOUGHT WAS INCAPABLE OF DOING THE THING IT WAS BOUGHT TO DO. THE COMMON LAW OF BUSINESS BALANCE PROHIBITS PAYING A LITTLE AND GETTING A LOT --- IT CAN’T BE DONE. IF YOU DEAL WITH THE LOWEST BIDDER, IT IS WELL TO ADD SOMETHING FOR THE RISK YOU RUN, AND IF YOU DO THAT YOU WILL HAVE ENOUGH TO PAY FOR SOMETHING BETTER, AND THEN YOU WILL ACHIEVE YOUR DESIRED GOAL.”

---JOHN RUSKIN---

(1819—1900)

Thank You for your time!

- If you would like to schedule a follow-up meeting:
 - Complete the survey form and give to TST
 - E-mail or call Bob Belmonte at TST to schedule a day & time
 - For a 30 minute WebEx software live demo simply send an email request



Tooling Software Technology, LLC

Bob Belmonte

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