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## Integrated Proposal Pricing & Estimating

Twenty5's Integrated Platform for Proposal Pricing & Estimating (IPE) for project-centric businesses running SAP® will take your organization to the next level. Our solution combines the latest enterprise-grade web user interface with end-to-end integration to SAP, PLM, Primavera, Salesforce, Excel, and other apps you use for costing and pricing - backed by the power of SAP HANA's® predictive analytics.

We can install our SAP add-on software on-premise or in the cloud to provide you with more accurate, confident and timely proposals using project-based estimates.

### Key Benefits

- ✓ **Best practices and re-use** driving closed loop continuous improvement
- ✓ **Bid with confidence** based on more insightful cost estimates, with best/worst case estimates and a detailed risk register
- ✓ Get accurate proposals out the door faster, with expert input from around the globe, using our **proposal and basis of estimate (BOE) workflow**
- ✓ **Powerful estimating algorithms** including copy of prior estimates and performance history, cost estimating relationships (CERs) and parametric factors, to drive consistency and learning
- ✓ Strike the **right balance of art and science**, combining the expertise of your team with predictive analytical insights from your data
- ✓ Quickly identify variances between top-down **Design-to-Cost / Price-to-Win targets**, bottom-up estimates and independent audits, to force discussions early in the proposal process

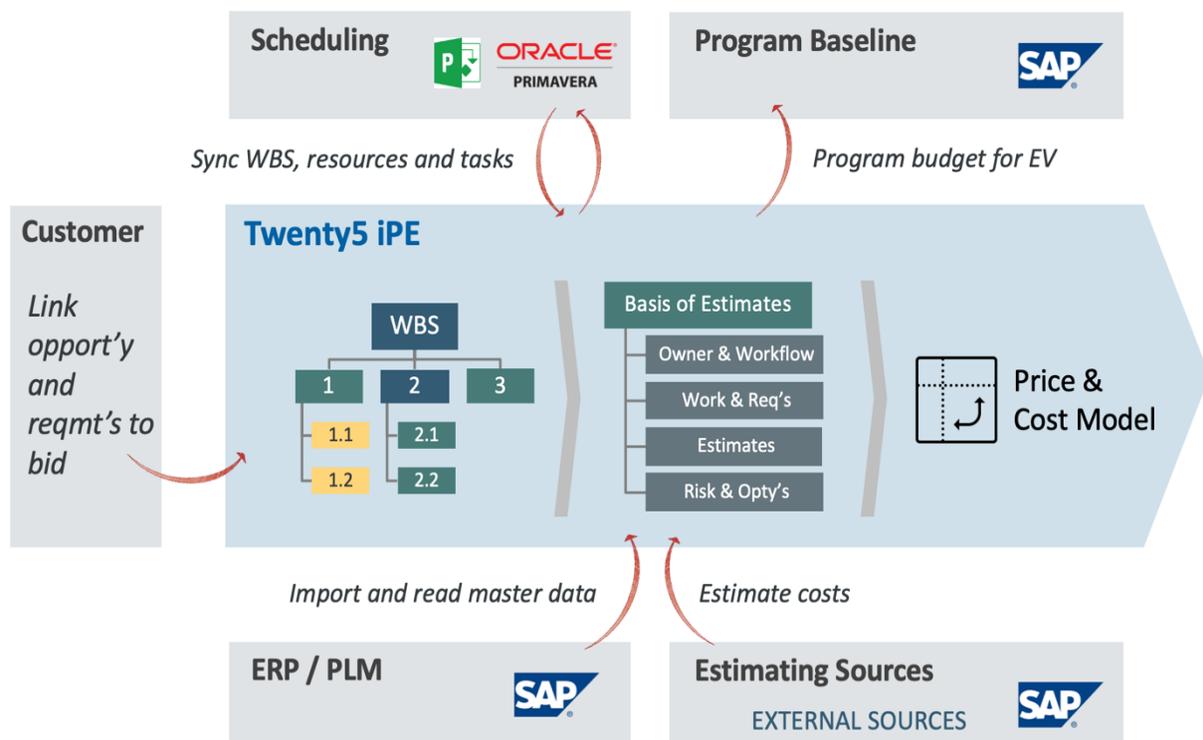


- ✓ Support your basis of estimate (BOE) with **requirements traceability** and cost estimating auditability requirements to meet U.S. Department of Defense DFARS 252.215-7002, Truth in Negotiations Act (TINA) and Small Business Administration (SBA) offsets
- ✓ **Multiple pricing strategies** including cost plus, T&M or fixed/catalog pricing with fees and discounts
- ✓ **Leverage investments in your current IT solutions** such as SAP, Primavera P6®, Salesforce®, and DOORS®, with our best-in-class web platform built on SAP HANA®.

## Key Features

Twenty5's Integrated Platform for Proposal Pricing & Estimating (iPE) addresses your proposal cost estimating and bidding processes with a modern, intuitive and responsive web application, packed with these features and more:

- Track Price-to-win and Design-to-Cost variances to ensure strong **top-down and bottom-up** alignment of projected costs and **risk-adjusted margins** from the outset
- Trace **requirements** from your estimates back to the customer's RFX
- **Re-use templates and prior bids** to quickly develop proposal structures such as work-breakdown structure or **WBS**, cost breakdown structure or **CBS**, organizational breakdown or **OBS** and product bill of material indenture or **PBS**, as well as the contractual deliverables (phases, CLINs, SLINS & billing milestones), opportunities and risks



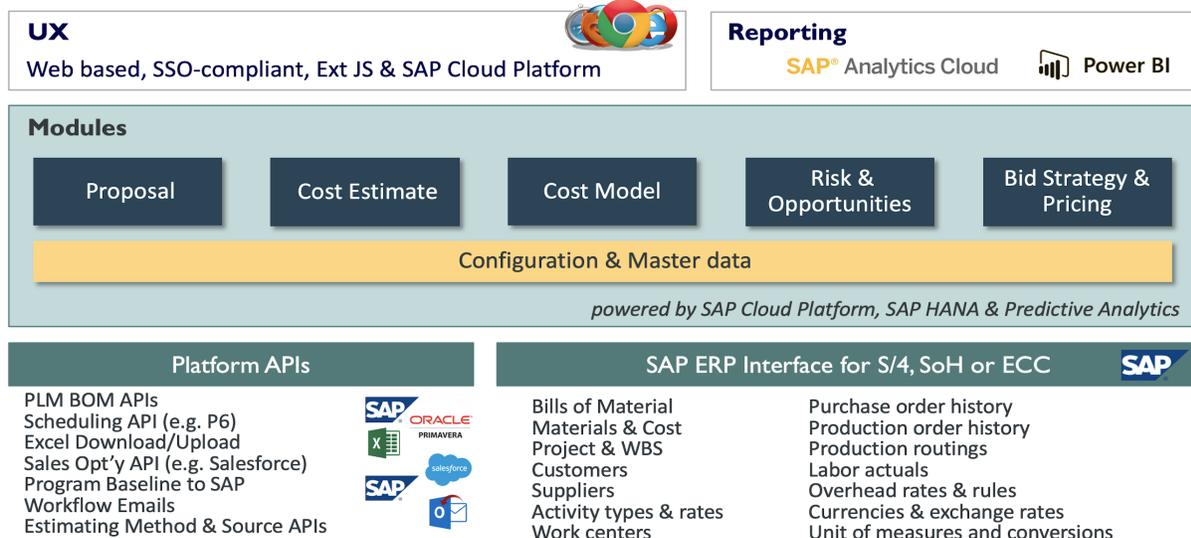
- **Basis of estimate (BOE) workflow** ensures timely input from BOE owners and approvers, to substantiate every estimate and manage rework
- Various pricing strategies including:
  - **Cost-plus** pricing with various fees and incentives
  - **Price books or catalog pricing** with volume discounting programs
  - Customer-specific **discounts**
  - **Time & Material** pricing with multiple rate books
  - **Proposal-specific** adjustments and labor/indirect cost rates
- Multi-country and multi-currency support leveraging local currencies, rates, and resources
- Capture and assess **risk and opportunities** in individual BOE's, rolling up into the overall proposal to help calculate risk-adjusted cost and revenue profiles at different confidence levels
- A single integrated cost model used globally throughout your organization covering:
  - **Engineering and services estimates** based on performance history, parametric estimates, Primavera P6 project schedules, previous estimates and engineering estimates
  - **Manufacturing estimates** based on a proposal bill of material (BOM) from your PLM system, with manufacturing hours based on your production standards or historical orders in SAP with similar-to complexity, learning curves and realization factors
  - **Procurement & subcontracting estimates** based on historical buys and vendor quotes in SAP or legacy procurement systems, with adjustments for complexity/similar-to, quantity adjustments for pricing breaks, inflation adjustments and escalation
  - **Travel estimates** based on specific trips or by applying a factor e.g. to onsite labor
  - **Other direct costs** such as financial costs, sales costs, or formula-based shipping costs
  - **Indirect costs** are added to provide visibility of both direct and fully burdened costs at every level. Indirect rates can mirror SAP's costing sheets and overhead pools, as needed
  - Flexible **cost estimating relationships (CERs) and sizing metrics** using formulae to establish any type of parametric estimate including predictive analytics of prior historical performance
- Tagging enables **classification of cost based on any characteristic** which can be used for reporting, cost estimating relationships, indirect cost calculation and parametric formula
- Our cost model can be sliced and diced to break down your cost by almost any dimension including WBS, OBS, CBS and PBS, for example by cost element, cost type, WBS, resource, proposal line item, phase, time, currency, confidence, estimating strategy or **small business administration code**
- Use our pre-delivered reporting views and templates in PowerBI® or build your own reports using any data visualization tool compatible with SAP HANA® such as **SAP Analytics Cloud®** or Tableau®
- **Download** rates, costs and prices to an Excel live-model, to ProPricer, or online for your customer
- **Proposal versions** and what-ifs allow your team to evaluate and compare multiple scenarios such as volume price-breaks or customer options
- Create the **program management baseline** cost budget directly in **your SAP ERP** system, to measure actual performance against for won proposals.

# iPE Solution Details

When your company receives an RFP, the clock starts ticking. In 30 or 60 days, you need to be in a position to deliver a strong proposal, a bid that will help you win, but not at the expense of winning a deal that will deliver poor profitability. It is a balancing act - to win, but not to win at all cost. And to win without disrupting the ongoing business too much while the bid is being prepared. Both your growth and margins depend to a large degree on how good you are at this process, yet many companies still craft proposals based on tribal knowledge, with every bid manager "running the show" in their own way, leveraging their personal experience more than the collective experience of the company.

With Twenty5's solution, these critical business processes which are under pressure to be timely and accurate will improve dramatically, so you can bid with confidence.

## *iPE Platform Architecture*



## How to Bid with Confidence

First and foremost, if you want to submit your bid with confidence, you need to understand what it takes to deliver the project, the specific risks that can derail execution and to what degree of confidence can the project be delivered. To get there, you need to break-down the customer's requirements, and disseminate portions of your project WBS to the right subject matter experts throughout your organization. You must also often force the right conversations early, create a proposal-specific bill of material, and understand how confident you are in each estimate via a register of specific cost or revenue risks and opportunities. In this way you can replace tribal knowledge with reliable estimates based on performance history, sizing metrics and cost estimating relationships.

## Force the Right Conversations Early

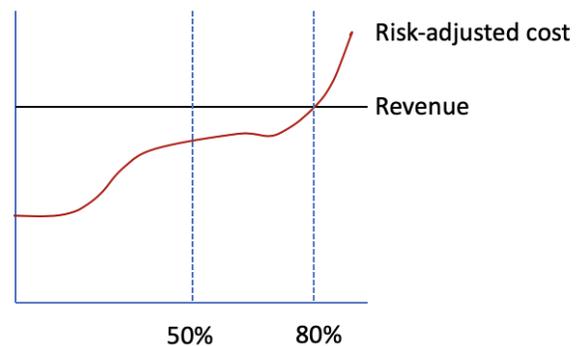
- Set the tone by defining Price-to-Win and Design-to-Cost targets. This is the outside-in perspective. Knowing this can ensure that you propose the “right” solution for the customer. If the customer is asking for a Fiat, don’t propose you will build them a Ferrari
- Understand detailed bottom-up inside-out estimates, based on the customer’s specific requirements and work involved, with experts throughout your company inputting intelligence over the web, comparing the new proposal to prior performance history, in one database
- Perform independent assessments to get an alternative view and sanity check on costs, prices and margins based on other similar proposals, sizing metrics and costing relationships
- Collect input about confidence, best/worst case scenarios, and various risks and opportunities associated with the project, from the person estimating the effort
- Clearly highlight the differences between top down and bottom up analysis to force your team to get in a room and discuss why those differences exist and how they can be bridged.

## Understand Confidence and Risk

- Unlike accounting, estimates are never precise, so it is important to understand the degree of confidence you have in your various estimates. This spread of possible outcomes can be managed in a few different ways: a risk register; three-point estimating (best case, most likely and worst case); and system proposed/user adjusted confidence scoring; independent assessments (ICE); and overall performance risk.
- Confidence is good, but having specific risks described and quantified is even more useful, as strategies can then be developed to avoid or at least mitigate the most critical risks.
- As an example, some identified risks can be mitigated or transferred to the customer by adding specific contract language. In addition, these risks contribute to the degree of confidence a company has in delivering the program within a budgeted cost.

## Risk-adjusted Cost

- When combined, executives will be in a position to calculate risk-adjusted revenue and risk-adjusted cost, based on risk simulation methodologies such as Monte-Carlo. Risk mitigation plan costs and post-mitigation risk impacts can also be taken into account
- This means making pricing and investment decisions based on what is the probability that the project can deliver a certain margin. Such as, at a given price point you will deliver 20% margin with 50% confidence, and a 5% margin with 80% confidence. Each company will set its own policies, which we can refine and sign-off as part of the implementation of iPE.



## Requirements/Capability Matrix - Confidence & Risk

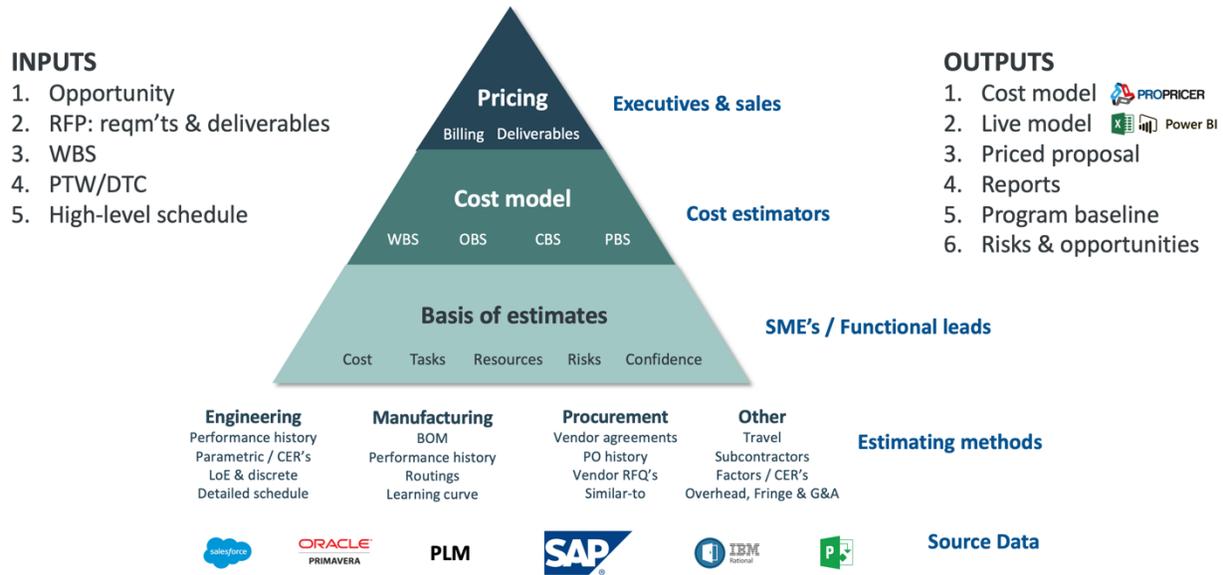
System Requirement	Capability or Feature	Outcome
Proposal response plan	Configurable workflow with email integration, lock-down and role-based notifications/approvals	Timely proposal response plan, tracking of actual vs. due dates
Top-down vs. bottom-up estimating	Tracking of price to win (PTW) by contract line with as well as design to cost (DTC) by WBS with automatic roll-up and comparison to bottom-up basis of estimates	Top down and bottom-up cost comparisons, with independent assessments
Basis of estimate – subject matter expert input	Proposal WBS with “BOE” annotations creating a workflow/estimate for each BOE-owner to complete online, with real-time cost model update	BOE’s managed each by their respective experts with separate approval
Calculate and track confidence	Confidence calculated by the system based on estimating methodology (level of effort, Primavera schedule, parametric, performance history etc.) as well as based on source documentation, e.g. age of historical purchase orders used for material estimates. Confidence rolls-up the WBS with an option for user adjustment	Confidence is calculated, rolled-up and tracked at each level of the WBS, to compare to target proposal confidence
Risk adjusted cost and risk adjusted revenue	Risk and opportunity register, covering both revenue opportunities and cost risks, with weighted impact calculation and confidence-based risk adjusted margin calculations	Risk register transfer to operational project. Risk adjusted cost and revenue calculations at various confidence %’s

### How to achieve Accuracy and Efficiency

Reducing your reliance on tribal knowledge and finding the one person in your company who led a similar initiative in the past requires workflow to drive responsiveness and accountability, as well as new estimating methods such as parametric estimating. Estimating labor as the number of full-time equivalents over task durations from a project scheduling system such as Primavera P6 are still valid, but these methods are best suited to estimating work which is by its nature novel or new to your organization.

Estimating repetitive work, such as the project management effort for an engineering program, or the quality assurance and testing component of a software project, can rely much more on cost estimating relationships or CERs. With a CER, rather than estimating for 1 project manager and 0.5 project admin you would, for example, estimate the project management hours as 12% of the engineering design hours. Taking this one step further you don’t have to plug-in the 12% factor, you can use predictive analytics of your actual performance history to compare project management to engineering design hours across a range of prior similar programs, and have the system derive a more accurate % of hours relationship for you.

*The iPE Pyramid – inputs, outputs and source databases and systems to support cost estimating*



## Sizing Metrics and Factors

Estimating based on sizing metrics allows you to plan for variances between the new vs. old proposal in a predetermined way. For example, you might have far more confidence in your estimate of the number of equivalent software lines of code (ESLOCs) as compared to your confidence in the lead software engineer’s guess as to the number of developers and sprint cycles required. Estimating based on this kind of sizing metric allows you to focus your subject matter expert on what they know best, e.g. the number of ESLOCs, and then use a cost estimating factor, or predictive analysis based on SAP HANA®, to estimate the hours per ESLOC. In this way you can estimate a wide range of different projects, all with different levels of complexity or numbers of ESLOCs, while maintaining consistency in terms of the hours per ESLOC for each delivery organization, site or major subcontractor that you use throughout the globe.

## Material Cost Estimating

Material cost estimating starts with a proposal-specific product configuration, bill of material or BOM for short. The proposal-specific BOM can be developed in SAP’s Product Life-Cycle Costing® or SAP’s BOM tool, in your PLM, or in Twenty5’s iPE application. Or you can initially develop proposal BOMs in PLM, sync them in real-time to Twenty5’s iPE, and then selectively “freeze” the BOMs in iPE and make final edits to the structure, phantoms, similar-to’s, interchangeable parts, proposal-specific quantities, lead-times and scrap factors directly in our proposal pricing and estimating application.

Once a proposal-specific BOM is defined, multiple instances of the same part number are consolidated depending on the part’s MRP lot-sizing rule, lot-size or time-fence, optional vs. standard custom requirements and other factors. Make and buy parts are then costed using a framework or stepwise procedure, invoking different application programming interfaces or APIs in turn to, for example:

- Estimating hours for make parts based on routing standards or production order history
- Estimating cost for buy parts based on vendor agreements, quotes or historical purchase orders

You can add your own APIs or data sources, such as querying a parts list catalog or legacy purchase orders in a non-SAP application. The source data is captured, assigned a confidence ranking and in the case of purchase orders adjusted both for inflation - to account for changes in commodity prices from the historical data of the purchase order up to the estimating date - and quantity, to account for volume price-breaks in the historical purchase order vs. the new consolidated requirement quantity. Unit of measure and currency conversions are also handled automatically, and material cost estimates offset based on production and procurement lead-times plus payment terms to facilitate cash-flow analysis.

## Requirements/Capability Matrix - Estimating Methods

System Requirement	Capability or Feature	Outcome
Various, accurate Estimating Methodologies (Labor, Travel etc.)	Primavera P6 or MS-Project integration for scheduling Level of effort or full-time equivalent based estimating with manual/automatic distribution based on a curve or based on manual inputs of effort by week or month Estimating based on prior performance history or previous proposals (closed loop) Cost estimating relationships or parametric-based estimating formula based on sizing metrics such as hours per drawing	Less reliance on tribal knowledge and more accurate, reviewed estimates with upper/lower cost bands, and confidence ratings
Proposal Indentured Configuration (or Bill of Material)	Import a product configuration or BOM from SAP, PLM or Excel, with option to sync or freeze configuration for that proposal Similar-to parts with complexity factors, interchangeable and equivalent parts for estimating purposes, and alternative BOMs or BOM items. BOM cost roll-up reporting	Option for standard vs. proposal-specific configurations including estimating materials or similar-to parts
Material Estimating based on actual History	Make part estimating based on average of production order hours or routing standards, with application of learning curves and realization factors by resource group Buy part estimating based on purchase orders, contracts, vendor quotes or cost estimates, or based on standard material cost, with date and quantity adjustments for price-breaks and inflation indexes	Accurate material estimates, with a full audit trail (basis of estimate) back to the specific source order which was used to estimate each part's cost
Present vs. future value estimating	Escalation indices and time-phased cash flow reporting, billing milestones, cost of capital and net-present value calculations	Cash Flow analysis with NPV and cost of money, based on payment terms

## Integration & Deployment

Installing Twenty5's SAP HANA® add-on for project-based pricing and estimating (iPE) is easier than you'd think, since it does not involve "open heart surgery" or making changes to your core SAP ERP configuration. You can deploy Twenty's solution in the cloud, or on-premise.

If you opt to install our application on premise and you are running on SAP S/4 or Suite on HANA (SOH) then our application runs on your existing HANA® database. Install our Java application in SAP's Cloud Platform or in Apache Tomcat. We will connect our application directly to your SAP system using system landscape transformation (SLT) and smart data access (SDA). Both tools provide out of the box real-time access to your SAP data, with minimal configuration to account for your company's data policies. If you are still running on SAP ECC (SQL-DB), then an on-premise installation requires a HANA® sidecar with appropriate SAP HANA® licenses. This is something we can help your basis team with, in two days.

If you prefer to run our application from the cloud, then all we need to do is connect or "whitelist" our application server from Azure to access your SAP data. In either case we normally recommend a two or three tier landscape with Development, QA/Training and Production systems.

During implementation we will:

- Discuss your requirements and current practices
- Help you to define policies, procedures and best practices
- Configure the software to suit your unique requirements, such as document numbering, working hours and holidays by site, BOE PDF output formats and workflow steps
- Develop or help your team to develop reports in you preferred reporting tool such as SAC®
- Understand your SAP and non-SAP data, for migrating or real-time integration purposes
- Help you to identify power and basic users, with appropriate role-based access rights
- Help you to build role-based training and work instructions for each user group.

## Requirements/Capability Matrix - Deployment

System Requirement	Capability or Feature	Outcome
Rapid Implementation	Add-on SCP and HANA® based application which can be deployed with first go-live in 4 to 9 months	Low-cost implementation equivalent to 1.5 - 2 years of subscription cost
Initial Trial or Prototype Option	Six-week assessment and prototype option, where we import your SAP data via Excel templates, and configure a proof of concept to work based on your company's unique needs, from the cloud. Add two more weeks for an on-premise prototype	Quickly evaluate our software with a fixed price (\$15k) hands-on proof of concept assessment
On-premise or Cloud	Both options are available, so for example you could deploy the Development and QA/test environment in the cloud and run production and training on-premise. SAP HANA® database or sidecar required for on-premise option	Flexibility depending on your unique requirements

## About Twenty5.com

Twenty5.com is an innovative software company which brings unique business value to project-centric businesses running SAP®, for example companies in the Aerospace & Defense, Professional Services, Engineering & Construction, High-Tech or Industrial Machinery & Equipment industry sectors.

Our founders each have 25+ years of experience in the enterprise software world, especially with SAP in Aerospace & Defense, as well as expertise in modern web technologies.

Given technological advancements such as in-memory databases, predictive analytics and artificial intelligence with SAP HANA®, Twenty5.com believes there are unique opportunities to make business processes more agile and data-rich. Cost estimating benefits hugely from these advancements, which is one reason that we have focused on the bid and proposal management process.

In our experience, real innovation happens when working directly with customers in co-innovation. We have a culture of delivering with speed and high quality, typically at a fraction of the cost of the large enterprise software and consulting companies.



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