Twenty5 Business Case

for Aerospace & Defense

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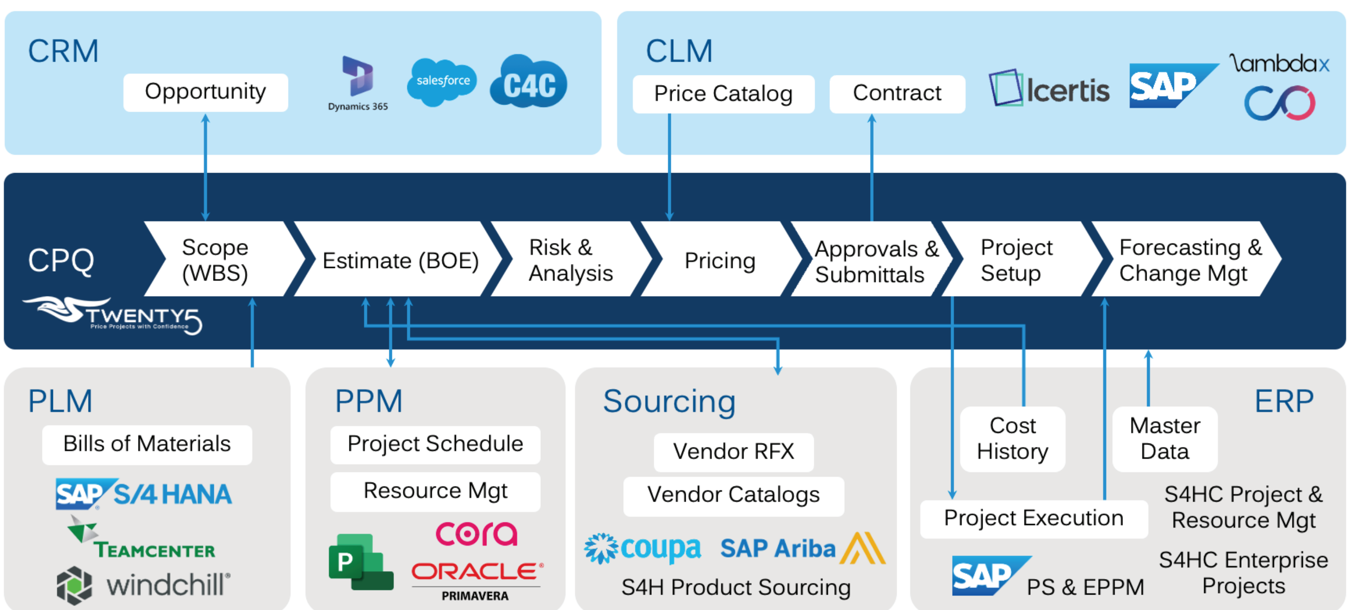
Why Twenty5

Twenty5's Intelligent Proposal Pricing & Estimating (iPE) Project CPQ platform takes aerospace & defense firms running SAP intelligent bid management to the next level. Poised to be the material and labor cost estimating and pricing engine to build a compliant and accurate cost volume, including hardware/engineering basis of estimates (BoE's) and spares/MRO pricing, Twenty5 leverages rich SAP ERP cost history to better ensure future success. With integration to SAP ERP, CRM, PLM and product sourcing, and RFP apps or vendor portals, our solution helps aerospace & defense firms bid with more accuracy and confidence, win more Government and commercial contracts more profitably, and accurately plan internal capital projects.

Running on SAP's platform-as-a-service or Business Technology Platform (BTP™), Twenty5 supports the end-to-end business process, from the CRM opportunity (or capital project request) to the project execution and actual cost collection and financial reporting in SAP ECC or S/4HAHA.

Our tool is the 'glue' between SAP S/4 HANA public cloud, RISE or private could, Primavera/MS-Project, Salesforce/MS-Dynamics, PLM proposal BOM management tools, MS-Excel, and other costing and pricing apps.

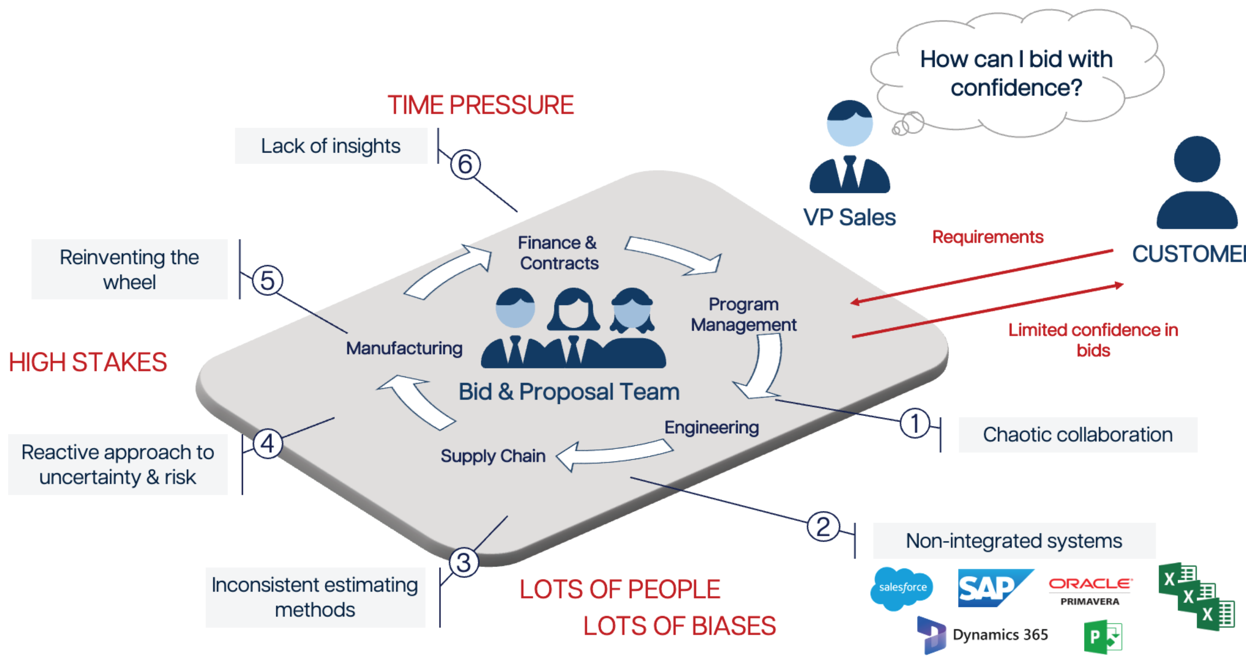


The Problem

Many aerospace & defense and complex manufacturing businesses running SAP are submitting bids and estimating commercial projects based on tribal knowledge without continuous improvement from bid to bid.

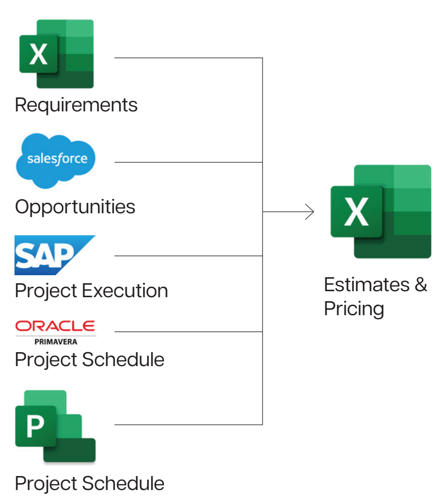
As a results of this inefficient process, firms are experiencing **inefficient** and **labor-intensive** bidding processes, **unreliable** and **expensive** estimates, decreased rate in deals won, under-estimated **eroding** margins, compliance **violations**, and **disconnections** between sales and delivery teams when it comes to delivering project-based contracts.

The diagram below outlines how proposal pricing and cost estimating works today and the challenges that many businesses face today.



Many companies use MS Excel for modeling resources and costs, MS Word for the estimate rationale, and various in-house custom solutions to extract BOM costs from your ERP application. Some companies use SAP's project planning tools to create a labor resource plan which can be converted to a resource-related quotation, while some aerospace & defense companies use ProPricer for pricing.

Only iPE has the necessary material costing features to provide seamless end-to-end project-based costing and pricing for engineering, materials, repair & overhaul and other costs.



Our Solution

Combining data science and end-to-end integration with SAP S/4HANA, PLM and your CRM, Twenty5 helps companies respond to RFx's faster, more accurately and with more confidence. Additionally, with its out of the box integration with SAP ECC, SAP S/4, ProPricer and other non-SAP systems, Twenty5 can be deployed quickly.

What Twenty5 brings to the table:

- Closed-loop continuous improvement using best practices and prior project knowledge.
- Built-in systematic compliance with ITAR, TCOPD/TINA, AECA and pricing relevant FARs/DFARs, with full cost traceability from cost source (e.g. in ERP) to output.
- 1-2% improvement in program delivery margins for major fixed fee/outcome priced programs.
- Reduced cost of IT ownership by >20%, through a significant reduction in the number of systems and tools.
- Bidding with confidence based on insights, best/worst case estimates, and proposal risks.
- Approval workflows and integration to business systems such as SAP, PLM, Primavera P6 and Salesforce.
- Estimated costs using powerful algorithms based on AI, performance history, cost estimating relationships and sizing inputs.
- Easily Identifiable cost sources, supplier quotation needs and basis of estimate with escalation and quantity curving.
- Management of global bids with multiple organizations and currencies and compare versions/what-if scenarios within each proposal.
- Optimal pricing strategy selection, including cost-plus, fixed or outcome based, modeling penalty fees, incentives and discounts
- Automated contract creation and project baseline in SAP S/4 HANA.

Compliance Benefits

Challenges with Meeting Compliance

Aerospace & defense firms face challenges such as hundreds of millions of dollars in Government fines due to defective pricing and a lack of traceability from cost source to quoted part pricing. For example, traceability gets lost in the process of linking purchased part pricing in proposals to actual supplier quotations or purchase orders in ERP. Additionally, localized/desktop systems often make it difficult to enforce Arms Export Control Act (AECA), Truthful Cost or Pricing Data Act (TCOPD/TINA) or International Traffic in Arms Regulations (ITAR).

Twenty5's Compliance Solutions

As a central application running on a central database Twenty5 comes with **full traceability** of cost sources for engineering, production, procurement and maintenance BOEs, such as:.

- Traceability for purchased part prices back to actual supplier contracts and/or quotations from ERP procurement systems and supplier portals.
- Traceability for purchased part prices back to purchase order history with quantity curving and/or escalation based on known industry factors.
- Traceability for production and engineering hours estimates back to production confirmation history and prior engineering hours for similar work.
- Traceability of hourly cost rates and burden/overhead rates and factors based to actual performance history and current/escalated financial accounting rates.

This traceability is not 'stitched together' via custom developed reports, **it is inherent in our application**, with direct interfaces to the underlying ERP source data (and Twenty5 comes with audit reports).

Regulatory compliance is built into the application including for the following:

- **Truthful Cost or Pricing Data Act** (TCOPD or TINA as it is often referred) compliance is systemized through continuous tracking of total TCOPD relevant supplier spend, cost and price analysis reports and commercially priced items, supplemented by integration to supplier quotation portals or sourcing/RFP systems to automate supplier RFP and quotation requests
- **International Traffic in Arms Regulations** (ITAR) and **Arms Export Control Act** (AECA) compliance is systemized through classification of military and dual-use technical data and end user classification of US person/citizen status as well as access location, as well as integration to databases of debarred suppliers and countries

Twenty5's powerful, built-in workflow engine, which operates at both proposal and BOE level, allows automated locking of estimates and proposals which are approved or pending approval. This ensures compliance with internal company policies and protocols, as well as providing an audit-trail of management sign-off for cost proposals, cost volumes and submittals. This is backed up by a full audit history of who changed what and when, throughout the system.

Twenty5 supports a vast range of cost volume, BOE and pricing outputs, all of which come from the single centralized database, ensuring data consistency and compliance through to submittal. Output options including Excel, PDF, and Word.

Seamless Integration to SAP

Twenty5, as a central application running on and connected to your existing SAP ERP infrastructure, with direct online integration to non-SAP business systems such as ProPricer, PLM, CRM or cost source history prior to their conversion to SAP, makes it easy to pass DCMA compliance audits, including:

- Cost Accounting Standards (CAS 401/402/405/406/410/418)
- Cost Estimating System (DFARS 252.215-7002)
- Truth in Negotiations Act (TCOPD/TINA - FAR 15.403-4)
- Treatment of Unallowable Costs (FAR 31.201-2).

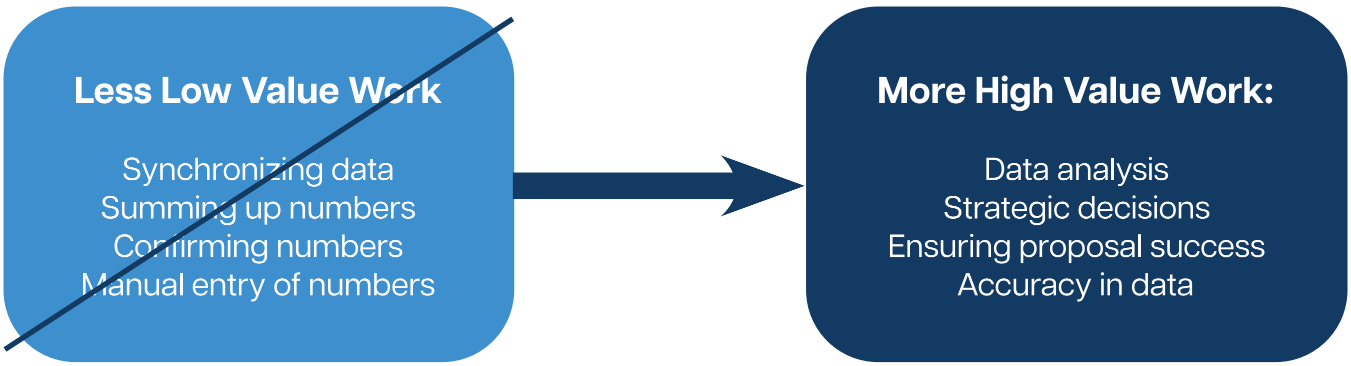
Cubic, our initial client which has been using Twenty5 since mid 2020, passed DCMA audit for their pricing and estimating with **“zero findings and zero comments”** from the DCMA.

More Efficient Proposals & BOE's

Challenges with Proposals & BOE's

Many businesses in the A&D industry today deliver proposals by relying on people to orchestrate a process pulled together from a **myriad of systems**. Data is frequently extracted from one system and loaded into another system - sometimes with an interface, sometimes loaded from spreadsheets, and sometimes manually entered.

This means a lot of effort is put into low value work, such as synchronizing data and making sure the numbers add up, versus the higher value work of analysis and strategic decision making. The problem is exacerbated because proposals are iterative by nature, with many rounds of negotiation and pricing adjustments for more complex bids.



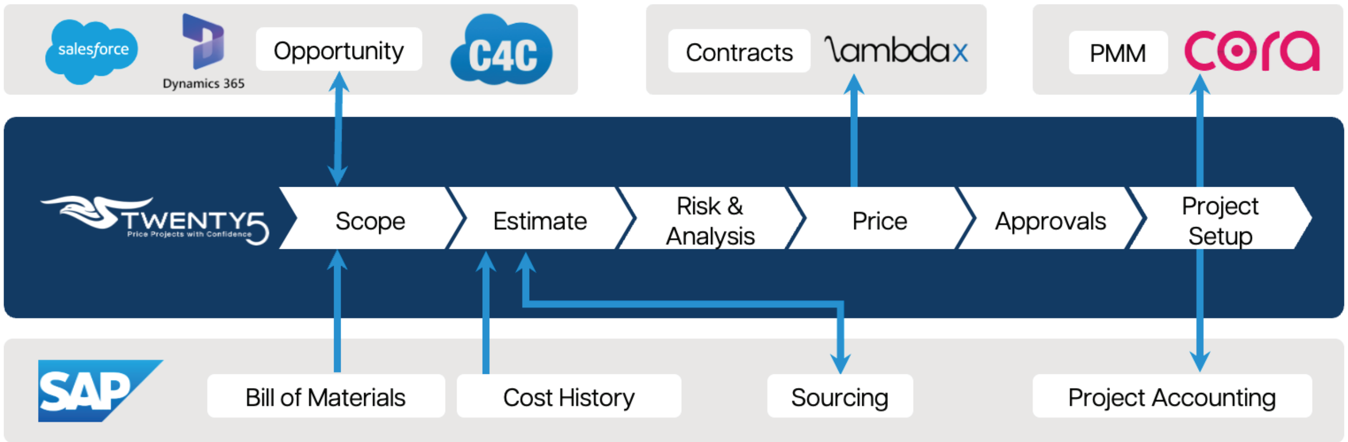
As a proposal manager it is also difficult today to assess the status of an overall proposal and where a task might be stuck. Proposal managers instead rely on meetings and emails and **end up becoming firefighters**, chasing down resources to get proposals out the door quickly.

There is also a missing element of driving towards best practices and avoiding constantly re-inventing the wheel. This is not only inefficient, but it also leads to worse outcomes in terms of less accurate and lower confidence cost estimates and pricing.

Twenty5's Proposal & BOE Solutions

Twenty5 enables a **single integrated digital thread from opportunity to project execution**. With Twenty5, data is constantly validated, never entered twice, and easily re-usable from best practice templates or prior proposals/projects. At the same time, Twenty5's workflow is ensuring that stakeholders are invited and held accountable against timelines.

Single Digital Thread from Opportunity to Delivery



This “single thread” entails:

- **Re-use**: Quickly achieve 60-80% of the estimate by copying best practice templates or similar prior projects/proposals. Re-use is possible at project level, and on lower levels such as individual deliverables, work packages or even parts.
- **Estimating**: Estimate large Product Structures (thousands of parts) with full integration for BOMs, and cost history from SAP in minutes.
  - Thousands of parts across many BOM levels, end item delivery schedules and optional sets can be estimated in minutes across millions of historical procurement and production records – such as scanning purchase history to determine the best-match purchase contracts, supplier quotations, purchase order or manual cost/price analysis, with escalation and quantity curving.
  - This includes consolidation across requirements by part number, optional sets and part number specific lot-sizing rules, end item delivery schedules and BOM lead time offsets, configurable rules for costing hierarchies and cost source prioritization, and quantity dependent (e.g. unit prices or processing times) vs. non-quantity dependent special charges (e.g. certification & test supplier fees or set-up times).
  - Twenty5 uses data science and machine learning to come up with 80% accurate costs, while highlighting the 20% where the material and labor cost estimators need to focus, based on top percent of spend, total supplier spend vs. TINA threshold, lack of cost history, wide variations in hours for similar work etc.
  - Template and factor/formula-based engineering estimates facilitates a range of estimating methods including based on best-practices, parametric/sizing inputs based on industry-standard formula and estimating based on similar prior performance history, with complexity and efficiency adjustment factors.
- **Workflow**: Twenty5’s workflow approval module gains timely input from the right stakeholders to hold them accountable to get their work done on time, and to see when a task gets stuck.
- **Versions and scenarios**: Managing multiple scenarios and versions has proven to be a challenge inside most large A&D firms. By implementing Twenty5, A&D firms will be able to compare versions side by side, and run different scenarios to ensure profitability and avoid unnecessary risks. Common reasons for evaluating multiple scenarios would be:
  - Insourcing vs outsourcing
  - Fixed Fee vs Cost Plus

    - Different locations
    - Schedules & dates
    - Scope adjustment
- **Integration**: Tremendous efficiency is gained through full integration to make sure data flows seamlessly between tools without friction or re-entry:
    - Twenty5's integration to SAP for project/WBS and cost baseline generation at any level of the WBS facilitates enterprise-wide best-practices and program WBS, CBS and PBS alignment between sales and delivery stages of the program. The typical CEO-question "what did we estimate the cost for this WBS/product family/sub-assembly/CLIN was?" can now be answered from one version of the truth, at any stage during the program delivery life cycle.
    - Twenty5's integration to supplier sourcing tools such as SAP S/4 product sourcing, Ariba or custom supplier portals allows for automated generation and transmittal of supplier RFPs. This allows A&D firms to meet TINA regulations or ensure a top percent of material spend is covered by valid contracts or supplier quotations, as well as automating the feed of new supplier quotation responses into material costing.
    - Twenty5's integration to LambdaX for contract and CLIN/SLIN generation allows proposal terms and end item / set structures negotiated with the client to be seamlessly fed into the eventual contract in a CLM tool.
    - Twenty5's integration to ProPricer allows Twenty5 to be implemented for cost estimating and certain types of pricing (such as spares or maintenance/support) while using ProPricer for other aspects of pricing and submittal.

Impact of Improved Proposal & BOE Strategy

Expect to see a reduction in working days to provide cost estimates by approximately 30%, as well as increased output of bids by 30% or more, with same headcount. This is achieved by less data re-entry, a streamlined workflow, and less time spent on lower-value tasks such as comparing results from multiple systems.

Better Pricing Decisions

Challenges with Pricing Decisions

When bidding for fixed-price or outcome-based engagements, many businesses face critical challenges in making informed pricing decisions. These high-stakes decisions require balancing the risk of losing deals due to excessive pricing with the risk of reduced margins from underpricing.

Errors such as **underestimating costs, overlooking scope, or insufficient risk** consideration can erode project margins, especially in fixed-price engagements where miscalculations directly impact profitability. Additionally, a "win-at-all-costs" mindset within sales teams can exacerbate these issues, prioritizing deal closure over sustainable margins.

Twenty5's Solution to Better Pricing Decisions

Twenty5 offers a comprehensive solution to address these challenges by creating a **single source of truth** and streamlining the estimating process with validated data, enforced scrutiny, embedded risk assessments and the ability to draw lessons from prior bids.

This approach ensures more accurate pricing and reduces the likelihood of costly mistakes. Here's how Twenty5 delivers value:

1. **Leverage Insights from Prior Projects**: Twenty5 captures and integrates lessons learned from previous engagements, helping avoid repeating past mistakes and refine its bidding strategy
2. **Complete and Accurate Scoping**: Twenty5 solution helps ensure all project scope is accounted for and provide realistic cost estimates based on historical data and trends.
3. **Embedded Risk and Confidence Assessments**: Risk and confidence levels are seamlessly integrated into the estimating process, enabling resources with the most expertise to assess potential risks intuitively and effectively.
4. **Enhanced Scrutiny at Every Level**: The platform enforces appropriate levels of scrutiny, ensuring thorough reviews and sign-off before finalizing bids.
5. **Top-Down and Bottom-Up Alignment**: Discrepancies between top-down planning and bottom-up estimates are highlighted, driving meaningful conversations and early resolution of misalignments.
6. **Proactive Risk Mitigation**: By addressing risks and uncertainties as part of the estimating process and before contracts are signed, A&D firms can account for and even mitigate project risks to improve project outcomes and protect margins.
7. **Informed Pricing and Negotiation**: A&D firms gain a clearer understanding of risk and uncertainty, enabling better-informed pricing decisions and stronger negotiation positions.
8. **Enforced Corporate Pricing Policies**: Twenty5 allows firms to implement and enforce corporate policies around pricing. For example, fixed-price engagements with margins below 15% at an 80% confidence level can require additional approval steps, ensuring strategic oversight on high-risk deals.

The Result of Better Pricing Decisions

There are multiple ways to implement Twenty5, as a cost estimating tool alone feeding ProPricer for pricing, or as cost estimating and pricing feeding ProPricer for submittal, or for some scenarios (such as spares quotations and maintenance) as a true CPQ directly creating sales orders in SAP ERP.

Total Cost of Ownership

Challenges with Cost of Ownership

Some of the challenges companies in the A&D industry include:

- A large number of disconnected systems for proposal pricing and estimating, across a myriad of technologies and platforms, databases and vendors - some companies use up to 40 separate systems to get a proposal cost/price out, increasing IT cost of ownership significantly
- Many of these systems are decades old, or running on sunset technology, or reliant on custom SAP ECC ABAP extraction programs, all of which will need upgrading or refactoring within the next few years
- Having many disparate, unconnected systems making compliance, auditability and pricing decisions almost impossible to implement at a systematic level

Twenty5's Solution Cost of Ownership

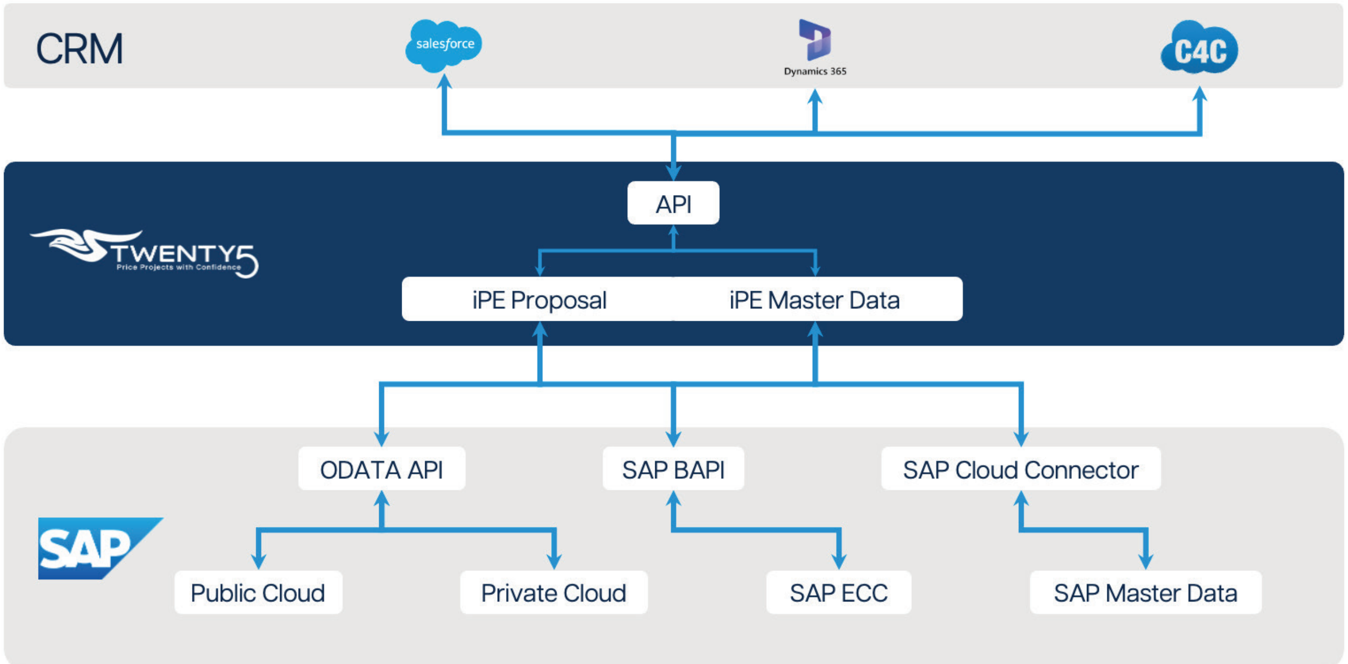
As a centralized single application with out of the box connectively to SAP ERP, pre-SAP legacy procurement or production systems, PLM, project management tools like Cora or Primavera, **Twenty5 will dramatically simplify an IT infrastructure and system landscape for pricing and estimating.** The majority of Twenty5's SAP ERP integrations are in read-only mode, such as:

- Master data synchronization (suppliers, customers, material masters, BOMs, routings, production versions, supplier quota's, labor activity type cost rates etc.).
- Cost history look-ups (such as production order shop labor confirmation history, engineering timesheet data, purchase orders, supplier contracts and quotations, exchange rates).
- Field-mappings are configurable in Twenty5 allowing mappings to custom fields in SAP, rules-based mappings, and conditional (e.g. material type or business area specific) maps. Twenty5 also comes with a built-in data migration workbench which supports complex field mappings and value maps, such as old to new SAP plant codes, for example.
- This means that Twenty5 can be implemented within an existing SAP ECC ERP, without the need to make changes to an existing SAP ECC system configuration ("no open-heart surgery" in other words).

At the same time, Twenty5 works with **both SAP ECC and S/4 HANA**, with interface options to create contractual CLINS/SLINS, pricing and delivery schedules in SAP or in Cognitus' LambdaX, and to create or extend project/WBS hierarchies and cost baselines in SAP S/4 HANA at any level of the WBS.

- This makes Twenty5 a key solution within the spares, quotation, sourcing and program management work-streams of an SAP S/4 upgrade, with Twenty5 having a direct influence on project/WBS creation in SAP S/4, and to a lesser extent (and in conjunction with LambdaX) on contract/sales order creation.
- Twenty5 can and will work with ProPricer directly, to ensure out of the box integration, which is seamless, supportive, and effective.
- Twenty5 can also provide spares and maintenance/support configure-price-quote (CPQ) functionality including direct spares quotation PDF generation and SAP sales order generation.

Twenty5 Architecture



The Impact of Total Cost of Ownership

A&D companies should reduce their total cost of IT ownership by approximately 40%, ramping up over the first five years of ownership. This includes software licenses, hosting/infrastructure, custom development, IT/helpdesk and software vendor support and best-practice consulting and end user training.

Twenty5 can be implemented prior to, or in conjunction with, an SAP S/4 upgrade. Since proposal cost estimating is not supported by SAP ERP functionality today, it is possible to ‘ramp up’ the go-live bringing on new business areas, segments, programs or estimating teams gradually vs. the typical ‘big-bang’ go-live inherent with an ERP system upgrade or go-live. At the same time, as 30-year seasoned SAP veterans, the team at Twenty5 is very familiar with successful business transformation system implementations, especially deployment tasks around data migration, integration/interfaces, reports/outputs and end user training material development and training delivery. Our deep ingrained SAP expertise reduces the risk of SAP integration mapping and configuration further.

Recommended Implementation Approach

Given the heightened urgency to get back into compliance, we recommend a stand-alone implementation of Twenty5's iPE, connected to an existing SAP ECC environment to read master data and cost history, and to ProPricer for output and submittal. This would be initially focused on engineering and production programs, with the option to add spares and maintenance/support in a later phase.

The project phases might be scheduled over 14 months as follows:

- Three months for requirements, global design and system set-up
- Five months for integration build-out, configuration and unit testing
- Six months for system and user acceptance testing, training and go-live

This could be compressed depending on the scope of the initial go-live, and the extent to the which the go-live is ramping up over time following SIT/UAT and training.

Twenty5 At A Glance

Our Mission

At Twenty5, our mission is to empower businesses by optimizing their pricing and estimating systems, ultimately saving valuable time and increasing profitability. We are dedicated to delivering innovative software solutions that streamline workflows, enhance accuracy, and advance predictive analysis, allowing our clients to focus their time on what matters most – winning profitable projects. By utilizing their project knowledge base and performance history, we foster an environment for our customers to be able to make informed decisions quickly and confidently as they build and send out project proposals.

Who We Are

Twenty5, named after 20/5 eagle-eye vision, was founded by world renowned experts in SAP and Project Management. Combining our AI and data science on your rich ERP performance history with an intuitive user interface, our intelligent pricing and estimating tool enables the world's largest firms to plan and manage capital projects faster and with more accuracy and confidence.

We are SAP Certified, an Industry Cloud Partner & Integrated with GROW with SAP

SAP Partner

SAP Certified

Integration with GROW with SAP

Who We Serve

Aerospace & Defense, Capital Projects, Consulting Audit & Tax, Engineering & Construction Services, IT Infrastructure & BPO, Machinery & Equipment

What We Do

Project CPQ (Configure, Price, and Quote) Software

Our Clients

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