Opinion: T-X Is Lockheed's To Lose, And Boeing's To Win

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Last month saw a sudden self-downselect by potential U.S. Air Force T-X trainer program contractors. Northrop Grumman, which had built a clean-sheet T-X prototype, decided it would not bid after all. Raytheon, bidding Leonardo's M-346 as the T-100, left the partnership, leaving Leonardo's expected bid as the sole non-U.S. prime.

On Jan. 1, there were four front-runners, and two are now left. Lockheed Martin, offering Korea Aerospace Industries' T-50A, and Boeing, working on a clean-sheet design with Saab, will bid, perhaps along with Sierra Nevada Corp. Boeing and Lockheed Martin are sticking with the T-X, and they represent a study in contrasts.

The two dropouts left for a reason. The final T-X request for proposals (RFP), released in late December, basically constitutes a price shootout, not too different from the KC-X aerial refueling tanker competition. The RFP gives a price adjustment for superior performance but with a maximum that is less than $400 million, for a contract valued at over $16 billion. Improved maintenance costs do not count either, since there is merely a maximum life-cycle cost, with no credit for anything lower.

Meanwhile, T-X development cost overruns beyond a certain point will be borne by the contractor. The KC-X program used this formula too, resulting in Boeing's $1.5 billion in KC-46 losses.

A contractor persisting in these circumstances needs either an off-the-shelf platform or a strategic imperative to win a U.S. military aircraft contract. Lockheed Martin has the former, while Boeing has the latter. Northrop Grumman, with a new aircraft and the important B-21 contract win behind it, had neither. Raytheon, which has not built an aircraft since it owned Hawker Beechcraft over a decade ago, had Leonardo's off-the-shelf M-346, but it could not make the bid price numbers work.

While the T-50 and Boeing T-X will be superb performers, it will be hard for either to gain a performance edge, given the terms of the RFP. They both use the same GE F404 engine, and neither will be able to gain a significantly greater share of that performance incentivization increment than the other. For the Lockheed/KAI team, the advantage is in not having to bury any serious development costs in the bid price. As an off-the-shelf aircraft, the T-50 also will not suffer any risk-related upward price adjustment, another feature of the RFP with which Boeing will need to deal.

For Boeing, much depends on how it amortizes the cost of developing its clean-sheet design, a question that is related to its expectation for total market size. Much of this nonrecurring expense is shared with Saab, but the Swedish company will want some degree of amortization, too.

If the development bill is $1.5 billion, and this is amortized solely by the 350 aircraft in the T-X program, this represents a $4.3 million additional cost for each aircraft. Since T-X unit costs will likely be lower than $20 million, this added cost would be disastrous, particularly due to the RFP’s risk cost-adjustment. But if Boeing believes the total market is 1,000 aircraft, the unit cost increase would be in the $1.5 million range, a far more manageable increment.

The problem is that the 1,000-unit market is speculative, at best. Boeing has designed an aircraft optimized for the T-X competition, and the world market for supersonic high-end trainers is relatively small. There is also the light fighter market, but with its stadium seating and other trainer features, it is far from clear that Boeing’s T-X can play a significant role as a light fighter. Even the T-50, sold as the FA-50 for light fighter missions, has only found a small export market niche. Selling 650 Boeing T-Xs for these missions in the world market would be a very difficult task.

Therefore, the big question is with Boeing. If it is sufficiently eager to win a new military airframe contract, it will make the aggressive decision to spread costs over a large and perhaps unrealistic number of aircraft, probably resulting in future losses. If it does not do this, then Lockheed/KAI will win, assuming the team puts in a sufficiently aggressive bid. It is Lockheed’s to lose and Boeing’s to win.

As for the Air Force, it has done its job, with T-X RFP terms harsh enough to eliminate two of the four front-runners but reasonable enough to preserve competition between the two survivors. The service clearly has not left any money on the table.

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