

Aviation MRO: The Next Place to Land for Private Equity Investors

Private equity investors are showing strong interest in the aviation maintenance, repair, and overhaul (MRO) market. But before the deals get sealed, both sides should be more systematic in mapping out strategies for success. This commentary discusses four specific strategies private equity investors may leverage in this industry.

Private equity investing has been at the forefront of financial industry news in recent years, making headlines for the size and scope of deals. According to *The Economist*, in the first half of 2007 alone, acquisition activity worldwide totaled \$2.7 trillion, much of which was funded through private equity investment.

In previous months, however, the credit markets have been under enormous pressure, increasing the cost of debt financing and making deals more expensive. This has forced private equity firms to under-leverage acquisitions by increasing the amount of equity, thus driving down acquisition prices. Nonetheless, with \$300 billion to \$400 billion still in the pipeline for financing, according to *The Wall Street Journal*, and with such significant deal flow at stake, private equity funds are not likely to slow their pace anytime soon.

As part of this flurry of private equity activity, we have observed strong investor interest in the aviation MRO market. Private equity funds' enthusiasm spans many geographic regions and all aspects of the MRO value chain, and is matched by an equally strong interest on the part of industry participants. The MRO industry is ripe for an infusion of private money, as several underlying characteristics make it broadly attractive to private equity investors:

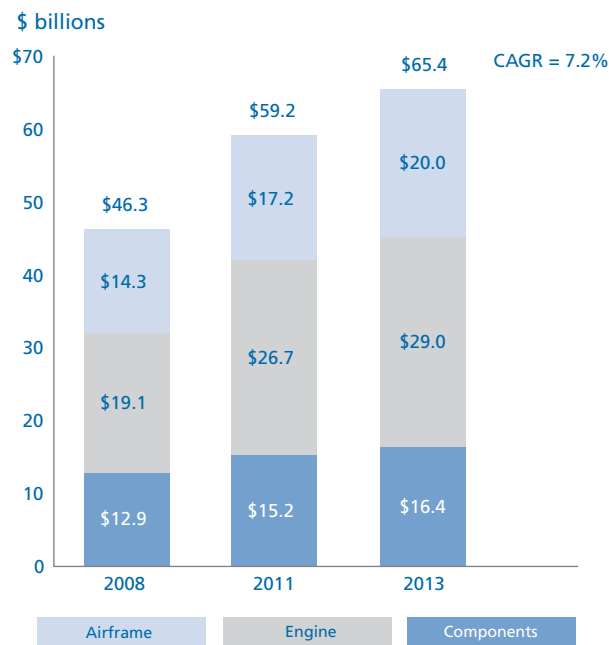
- The market is large and has reliable growth prospects over the long term.
- The industry needs investment to overcome fragmentation, which inhibits firms from meeting emerging customer demands for global fulfillment networks and integrated, global service offerings.
- Cost and operational performance have considerable room for improvement.
- The industry has strong, steady cash flows and large asset pools, providing collateral for debt.

Let's consider each characteristic in more depth.

A Large and Growing Market

We estimate the current size of the global MRO market (excluding line maintenance) to be \$46 billion, and expect the market to grow by an average of 7.2 per-

Exhibit 1 Projected MRO commercial and military projects



Source: Oliver Wyman analysis.

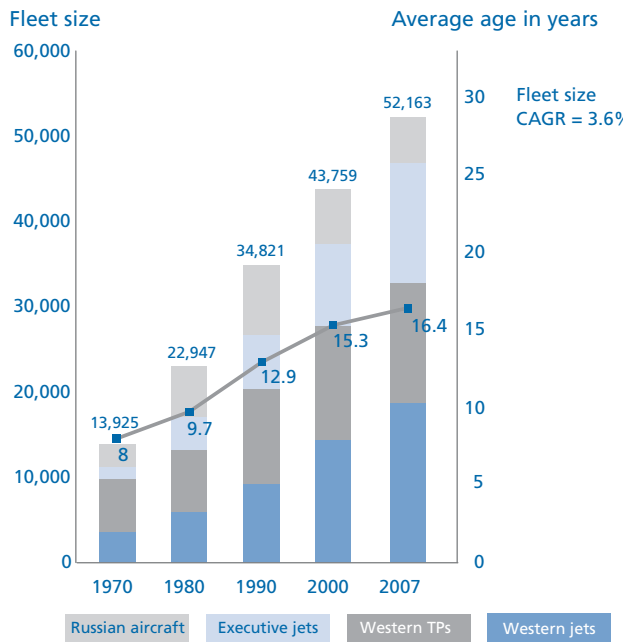
cent annually through 2013, to \$65 billion, as shown in Exhibit 1. Because of a wave of industry restructuring and the emergence of numerous low-cost carriers that tend to minimize internally performed maintenance, the level of outsourced MRO activity has reached 65 percent, 62 percent, and 45 percent for engine, component, and airframe maintenance, respectively.

MRO growth has been driven by two primary customer trends—an increase in the size of the active fleet and the aging of the fleet—both of which contribute to higher total maintenance work requirements each year. In the past 35 years, the active fleet grew by 4.5 percent a year on average for Western-type jets and 3.6 percent a year on average for all aircraft, while the average age of the fleet more than doubled (Exhibit 2).

Investment Needed to Overcome Fragmentation

While large, the MRO industry remains fragmented, with roughly 60 percent of companies generating \$100 million or less in revenues (Exhibit 3). The broad array of participants includes original equipment manufacturers (OEMs), independent repair providers, alternate parts (PMA) manufacturers, engineering services providers, and captive airline internal MRO operations. Most non-airline industry participants

Exhibit 2 Global fleet size and average age

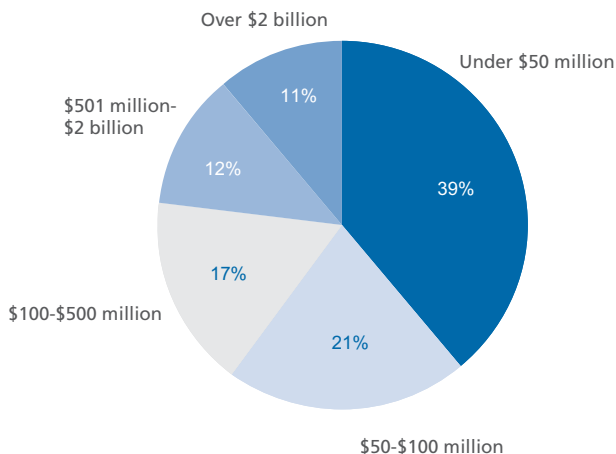


Source: Oliver Wyman analysis.

focus on a narrow set of capabilities or operate in a limited set of regions.

Customer preferences are shifting from regional providers who offer a la carte services to global fulfillment network providers offering integrated solutions. Recent Oliver Wyman research that surveyed more than 120 global MRO customers and providers highlights this trend (Exhibit 4).

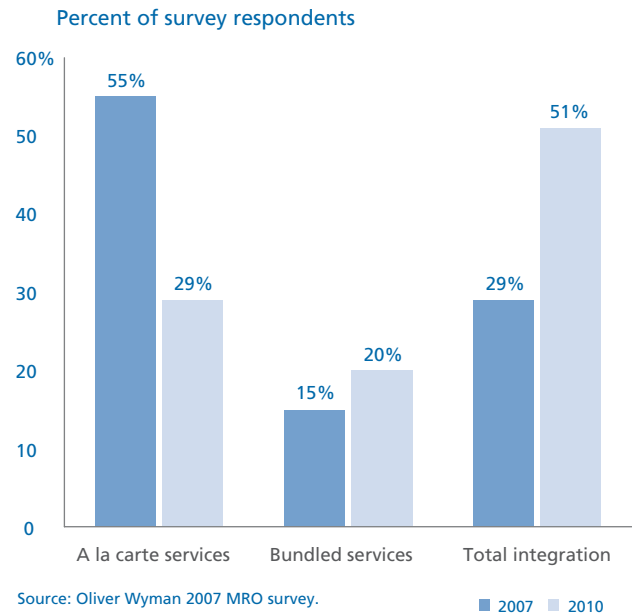
Exhibit 3 Distribution of MRO companies by revenue



Source: Oliver Wyman 2007 MRO survey.

MRO companies thus face the question of how to grow their businesses to meet these quickly evolving demands. While it is possible for an MRO company to grow organically by developing internal capabilities, this is a time-consuming process, and the company runs a high risk of lagging its more aggressive competitors. Outside investment, on the other hand, can provide the means for rapid scaling up or consolidation through mergers and acquisitions. Outside investors also tend to bring a new focus to operational efficiency and cost structure that helps create value.

Exhibit 4 Expected changes in MRO customer preferences



Room for Operational and Cost Improvement

Cost and performance improvement efforts in the MRO industry have been aggressive, but also relatively basic, notably headcount and labor rate reductions. Many MRO providers lag behind other heavy industries such as automotive and aerospace in implementing programs that provide true cost and performance differentiation. In addition, most MRO providers lack the capital and expertise necessary to implement sophisticated cost reduction and productivity enhancement programs, such as Continuous Improvement or Lean and Six Sigma.

In 2007, Oliver Wyman's annual MRO survey of airlines and MRO providers from around the world

highlighted that only 18 percent of MRO participants have implemented disciplined, business-wide Continuous Improvement or Lean programs. Those that do operate such programs have seen average benefits (in cost reduction, turn-time improvement, and so on) in the range of 25 to 35 percent (Exhibit 5). Over the next few years, MRO companies that fail to make these investments will likely be unable to compete with their more efficient peers.

Strong Debt Collateral

The MRO market is increasingly migrating to long-term contracts. As a result, the cash flow baseline of the typical MRO company is relatively stable and easily measured. Additionally, while many MRO companies are privately owned, a sample of publicly traded data shows that hard assets typically represent at least 50 to 80 percent of enterprise value, and debt-to-equity ratios hover around 40 percent. With high asset levels, low long-term debt levels, and predictable cash flows based on long-term contracts, the typical MRO is poised for additional leverage and is an attractive candidate for private equity investment.

Industry Acquisition Interest

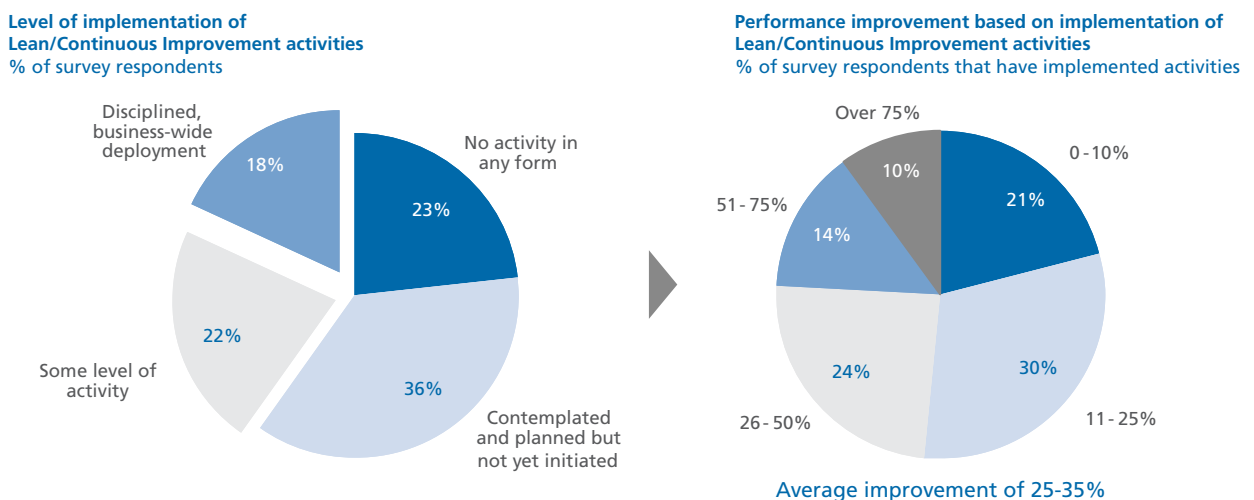
Not only is the MRO industry attractive to private equity investors, our experience with the industry indicates that MRO executives are eager to consider such

investment. There are a number of reasons for this:

- MRO firms typically have limited access to capital at attractive rates.
- MRO management teams tend to be strong operators but typically do not possess the deep experience with which to source, execute, and integrate capital investments.
- Given the right offering, private equity investment could provide an MRO firm with the capability to leapfrog its competitors who continue to grow organically.
- Airlines that operate large MRO businesses are increasingly seeking to divest non-core competencies such as maintenance. The sale of maintenance operations offers a more compelling means of creating value than simple outsourcing. The spin-off of Air Canada Technical Services by Air Canada and subsequent sale to KKR/Sageview is representative of this trend.

The access to capital, deal expertise, and four- to eight-year investment horizon of most private equity funds make a natural match with the attractive growth opportunities and competencies of today's MRO companies.

Exhibit 5 MRO implementation of Lean and Continuous Improvement and associated results



Note: Performance improvement percentages are a composite of improvements in: reduction in inventory, increase in labor productivity, improvement in on-time performance, reduction in rework, reduction in cycle time, reduction in floor space, and increase in capacity.

Source: Oliver Wyman 2007 MRO survey.

Exhibit 6 Four strategies for enhancing the value of MRO investments

Vertical integration	Horizontal integration	Geographic expansion/ global network	Cost and performance improvement
<ul style="list-style-type: none"> • Broader integration of parts manufacturing (OEM or PMA) and repair provisioning/development 	<ul style="list-style-type: none"> • Expanded capabilities across fleets or repair platforms • Expanded value-added services such as maintenance programs and supply chain services 	<ul style="list-style-type: none"> • Leverage global labor markets • Regional touch with customers • Centralized knowledge centers 	<ul style="list-style-type: none"> • Simple and effective way to quickly return value to investors • Dramatic improvements through Lean and Continuous Improvement

Note: Past performance is not a guarantee of future results.

Enhancing the Value of MRO Investments

Although private equity investors and MRO companies clearly could benefit from working together, certain strategies could enable these deals to produce even more attractive returns. We've identified four promising strategies: vertical integration, horizontal integration, geographic expansion, and a focus on cost/productivity improvement.

Vertical integration of parts and repair. Until recently, only OEMs could offer combined parts manufacturing and parts repair services. The emergence of large PMA companies, however, has opened this strategy up to MRO businesses. A combined PMA-MRO company would be able to provide a more integrated offering to its customers and take on greater levels of deal risk comfortably, including scrap risk and removal risk. The use of alternate parts is gaining acceptance among carriers and leasing companies globally, and some industry analysts believe that Pratt & Whitney's entry into CFM56-3 parts manufacturing will act as a tipping point for even wider acceptance. Consolidation of repair facilities (including designated engineering repair) and parts manufacturers could create considerable value and legitimate competition in the growing integrated "cost-per-hour" segment of the MRO market.

Horizontal integration of maintenance scope.

Substantial opportunities exist to consolidate several MRO providers with different capability sets, such as different fleet focus and different Air Transport Association of America chapter focus, and thereby meet the growing demands of customers for integrated maintenance offerings. Such consolidation could take various forms, such as the expansion of

repair capabilities across repair platforms or fleets in the component space, or consolidating engineering or maintenance program providers with airframe overhaul providers to optimize the scope of work and lower the total cost of fleet ownership.

Geographic expansion. A globalized MRO could deliver enhanced value through a combination of local presence, a centralized knowledge base, and a global multi-skilled labor force at a broad range of labor rates. Such a company would be better able to service larger international airlines, more efficiently employ varied labor pools around the world, and leverage knowledge and skills across facilities.

Cost and performance improvement. Sophisticated cost and performance improvement programs can be implemented alone or in combination with the strategies cited earlier. As discussed, MROs often lack the capital or expertise to effectively implement these programs broadly across their enterprises. External investment can provide a platform from which to build out these capabilities, particularly across a larger firm offering a more diverse set of capabilities.

Despite the recent turmoil in the credit markets, there is still significant private equity opportunity in the MRO market. Private equity investment that effectively executes one of the fundamental strategies has the potential to provide substantial returns, as well as to reshape the MRO industry. The MRO market is poised for transformation, in terms of both consolidation and performance improvement, and private equity investment will no doubt act as a catalyst.

The Aviation, Aerospace & Defense Practice

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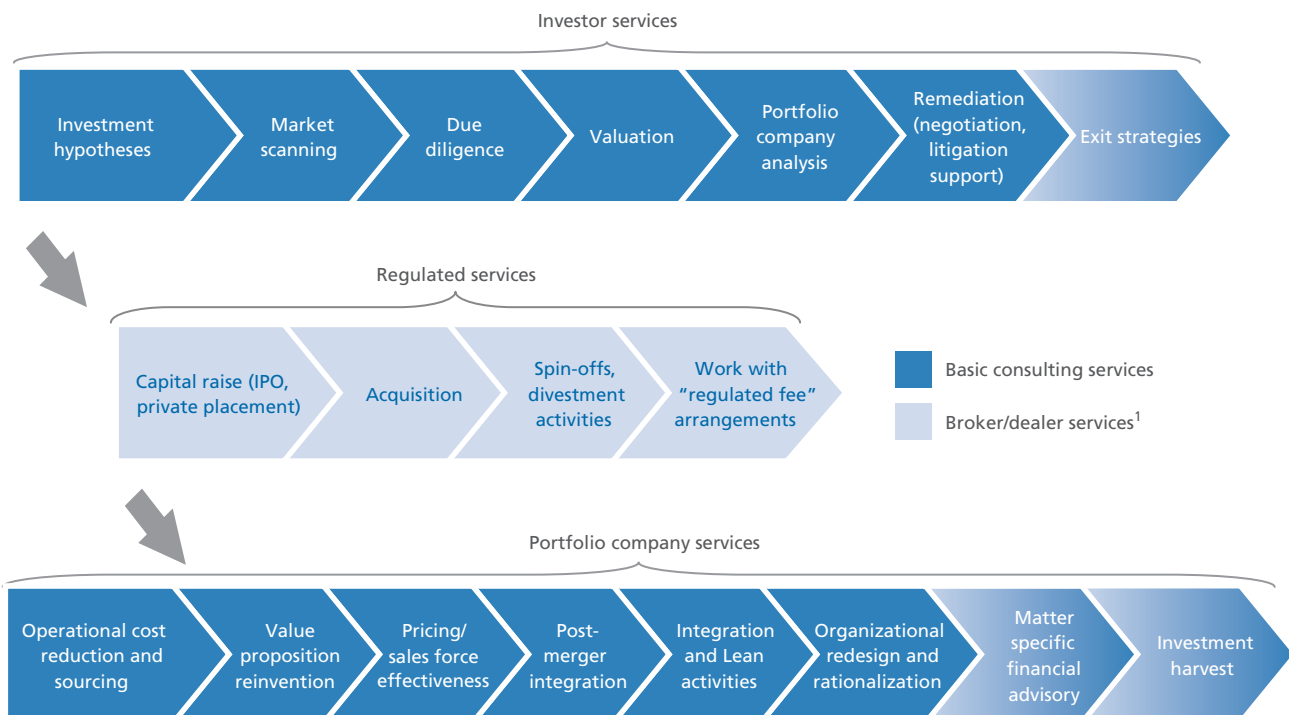
Oliver Wyman’s Capital Markets’ capabilities span a range of services to support private equity funds, hedge funds, investment banks, commercial banks, arrangers, strategic investors, and insurers. Our professionals focus on reducing the risks and increasing the speed and probability of success of our clients’ investment decisions.

With substantial experience in operational and strategic consulting to the MRO industry and an extensive suite of support services for capital markets clients, Oliver Wyman can work with both PE and MRO firms to develop approaches that maximize the value of such investments.

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Oliver Wyman’s capital markets consulting services



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