THE AIRLINE OPERATIONS SYSTEMS MARKET – 2016

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EXECUTIVE SUMMARY

Since 2009, T2RL have been publishing an annual report on the market for Airline Passenger Service Systems. This report is the first of what will be an annual series representing a similar analysis on the market for Airline Operations systems. We have looked at what capabilities already exist, the new capabilities airlines are demanding to improve their operational performance, and what software providers are developing. In turn, these provide inputs into an assessment of where the market for Airline Operations systems is going and what trends everyone needs to watch.

The last 5-7 years has brought an increased focus on Airline Operations as a strategic core capability within airlines. This is a most welcome and positive trend. The new era of attention to Operations is analogous to the Renaissance in that it contrasts sharply with the (Dark Ages) attitude that had prevailed in the prior two decades, where Operations was viewed more as a non-strategic cost centre and maybe even a corporate backwater. This change has been driven primarily by the recent trend toward unbundling airline services to generate ancillary revenues, which need reliable delivery to be successful. T2RL will be tracking capabilities and innovations in Airline Operations with as much diligence and zeal as with PSS.

Functional Breakdown / Scope

We have divided Airline Operations into four main groups, as shown by the large grey boxes in the diagram to the right. There are 8 light green boxes showing major departments such as Schedule Planning, Crew Planning, and System Operations Control. The coloured individual boxes denote 29 distinct functions that every airline must manage. These functions are the most granular level, where each box represents a distinct activity with a distinct set of people and systems needed to perform a function.

The majority of the leading-edge innovations are coming from inside

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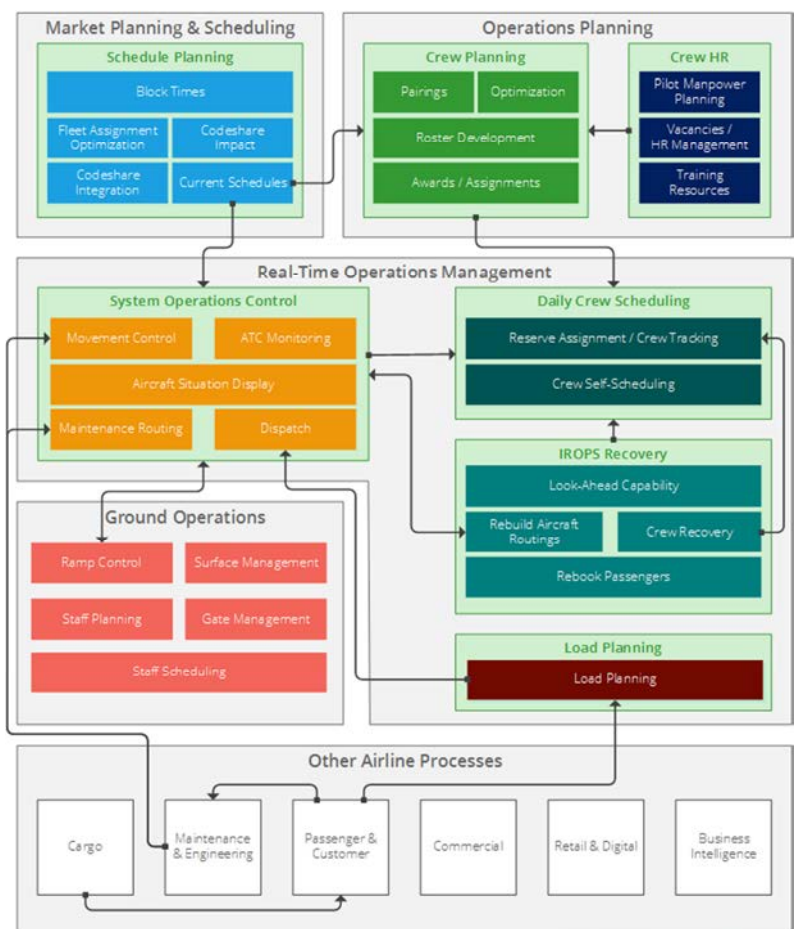
the "Real-Time Operations Management" box. Both airlines and vendors are developing tools to better show the current state of the airline operation, and some of these tools can offer concrete recommendations on resolving difficult problems that arise, including aircraft and crew shortages, disruptive weather, and airport limitations. No industry standard applications have emerged yet, which means that these markets are still evolving rapidly and remain immature. Most of the applications within the other grey boxes have the opposite problem in that they are supporting mature processes. The rate of innovation in these processes is at a much slower pace or not at all.

Operations Systems Market Structure

The airlines and vendors that together comprise the Operations Systems market form a kind of ecosystem: i.e., each group derives benefit from the other and would in fact have a difficult time surviving without the other.

Every airline – regardless of size, operating region, or fleet composition – must address all 29 of the operations functions with either an in-house developed system, a vendor system, or a manual process. Each vendor chooses which of the 29 functions it has the expertise and resources to support. The combination of airline, vendor, and function forms a market data point. We calculated vendor market shares from the total set of such data points.

While airlines all have basically the same needs, we have segmented the vendor community into four groups, each of which has a different approach to the marketplace:
- **Group 1 vendors** (e.g., Sabre, Lufthansa Systems) are well-known firms with multiple airline operations products. This group tends to draw the highest market shares.
- **Group 2 vendors** (e.g., AD OPT, FlightAware) are best-of-breed specialists in one of the major areas; their success depends on offering compelling product performance for their chosen speciality.
- **Group 3 vendors** (e.g., Amadeus, HP) are large, well-known, well-capitalised firms that have products addressing an area other than Operations, but now show a desire to expand into the Operations area. They have enough resources to survive the long time required to catch up to – and ultimately surpass – the established vendors.
- **Group 4 vendors** (e.g., Kernel Software, Skeye Aviation) are the boutiques, typically with 1-2 products, not well known outside of their chosen niche, and having a small number of customers within a relatively narrow geographic region.

Not surprisingly, the Group 1 vendors tend to dominate the market share assessments. Group 2 vendors show a respectable market share within their speciality, but they have a difficult time expanding beyond that speciality. Group 4 vendors that grow rapidly can attract the attention of a variety of airlines and ultimately graduate into Group 1 or Group 2. At its leading edge, the Airline Operations systems marketplace is always in flux.

Trends, Imperatives, and Opportunities

Like any dynamic marketplace, new solutions to old problems are constantly emerging, bringing with them new vendors with a fresh outlook. At the same time, existing vendors are constantly innovating and finding new ways to reach more airlines. Predictions are hard (especially about the future!), but we have identified some major themes expected to grab the attention of both Airline Operations executives and vendor development teams over the next decade:

- **Legacy System Renewal** – Better tools for integrating databases from disparate systems have made the process for converting from one system to another considerably less complex. That represents an opportunity for airlines currently using in-house legacy systems for operational functions to swap them out for more modern, lower-cost vendor solutions. Obviously, it represents an opportunity for the vendors as well.

- **Real-time Response to Events** – There will be increased emphasis on responding to real-time events, including routine delays, facility openings/closings, mechanical problems, and large-scale weather issues. As airlines become more adept at monitoring their operation, tools that help identify trouble or project the consequences of a particular control action (or no action) will be in demand. The net result will be a faster response—and likely a better one as well.

- **Proactivity** – The idea that acting quickly is better than deliberating has a lot of evidence behind it. Even where the initial response turns out to be in the wrong direction, it typically gets other people and functions involved in a positive way. As systems become better and faster at identifying problems within the operation, there will be increased opportunity to anticipate developing problems and do something about them while they are small and manageable.

- **Big Data** – As data collection becomes less expensive, operational data will become more extensive and more available. Increased use of analytics to mine this data and provide actionable intelligence could provide, for example, insights on when problems might arise that would require backup resources or contingency plans. Such insights could help the minute-to-minute decisions in the operation, highlight marketing opportunities to customers, or feed back to the planning processes to produce more robust operating plans.

- **Irregular Operations (IROPS)** – Decision support for weather events will be the dominant vendor frontier for the next decade. There is major potential for improving service in a way that attracts more business to airlines, and most of the enabling technologies (e.g., systems integration, portable databases) are now in place.

As always, the market will be dynamic, volatile, and unpredictable. However, the current favourable operating environment (i.e., adequate to good profitability, management focus, and relatively high investment in new technologies and procedures) portends good performance for both airlines and vendors over the next several years. In turn, that will sustain the capital needed to produce further innovation. There are many types of new efficiencies that will need to be explored, with substantially all the potential benefits of those efficiencies yet to be achieved.

T2RL is an independent research and consulting company that specialises in the market place for airline IT systems. Based on data gathered and analysed since the year 2000 it has defined and tracked classifications of airlines and their IT providers. T2RL's research is used extensively by airlines to enable them to make informed choices for systems and vendors and by the vendors to help them develop products that best meet the current and future needs of the airline industry. For further information, visit our website at www.t2rl.com.