

ADDRESSING THE SKILLS GAP

CAN AN LMS MAKE ONE GIANT LEAP FOR THE AEROSPACE INDUSTRY?



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There's no question that aerospace was one of the most defining industries of the twentieth century — from the Wright brothers to walking on the moon. However, the challenges they faced back then pales in comparison to what is standing in the way today of 'boldly going where no one has gone before.'



The space race is back, which has inspired innovators, investors and consumers alike, and at a scale and scope unseen since the moon landing.

But, do we have the talent to win?

In order to keep up with the pace of innovation, aerospace needs engineers, scientists,

researchers and technicians, to name a few. But, space companies, high-tech firms and even government are now fighting for the same workforce skilled in software, hardware, data science, engineering, artificial intelligence and manufacturing.

So basically, we have emerging space, established space and high-tech fighting for the same workforce. It's inefficient at best. Through the lens of our national aspirations, it's self-defeating.

Aerospace companies have been operating at a 25 percent deficit in engineering jobs

Traditional aerospace companies have already been running at a 25-percent deficit in engineering jobs due to aggressive cost-cutting. Additionally, NASA employment has been on a downward slope since 1991 (Dittmar, 2018).

It's important to continue to have the scientific and technical expertise necessary to preserve the nation's role as a leader in aeronautics, earth and space science and technology. And, this is critical to maintaining the ability to perform cutting edge work.



A growing talent gap is one of the biggest economic, cultural, and security risks we face in the critical next two decades. So, it's important that companies in the aerospace industry have the right people with the right qualifications at the right time.

Choosing the right LMS can help solve these challenges and decrease the skills gap.

This white paper will provide the guidance you need so your business can progress from earth bound training initiatives to stratospheric productivity and innovation.

PROBLEM

Almost all companies welcome the opportunity to grow, expand and innovate. The aerospace industry is no different. In fact, they are known for being pioneers of some of the greatest technologies of our time.

But, reality hits when the lack of skilled workers make the dream fade faster than a falling star. Consider how projects like these would be grounded without critical roles being filled in the aerospace industry,

- Space tourism would never get off the ground and soaring above earth would be just a dream for the average person
- Artemis, a new initiative to get back to the moon by 2020, wouldn't happen and we would not see the first woman to walk on the moon
- Advancements in aircraft design would be stagnant (e.g., 'green' technologies and noise reduction capabilities)
- Uranus and Neptune would continue to go unexplored because we would not have the technology to create new instruments that would allow this
- Homeland security will be compromised if new, innovative satellites and other technologies aren't created to combat things like warfare, ISIS or drug gangs
- Vulnerability of our planet increases. What if an asteroid were hurtling towards earth at 31,000mph? It's a real threat and one that could take out an entire city. Asteroid experts will have to make decisions about how to try to deflect the asteroid, whether by pushing it with spacecraft or maybe even by detonating a nuclear weapon (Boyce, 2019).

But, all of this is next to impossible without critical roles being filled in the aerospace industry.



So, why is there a lack of skilled workers?



There are a couple things happening that contribute to the problem.

- Skilled workers, from engineering to manufacturing, are retiring faster than they're being replaced
- Young workers are not choosing math and science-related careers nor do they have the technical skills required

This is a bad combination for aerospace and will leave an extreme impact in the years to come.

New jobs are being created every day but those positions are going unfilled. Or, it takes longer to fill them, stretching out months at a time.

Unemployment in the U.S. is at its lowest rate since 2000, yet nearly 60% of employers struggle to fill job vacancies within a few weeks. By 2030, the global talent shortage could reach 85.2 million people and knowledge-intensive industries like aerospace will be one of the hardest hit (McLaren, 2018).

This is costly for business and threatens the vitality of the industry.

For every three months a position goes unfilled, it costs over \$14,000 and one in six companies loses \$25,000 or more (Grasz, 2014).

And, this doesn't even include recruitment/onboarding costs and the journey to get an employee to full productivity.

According to Bersin Deloitte, the average cost per hire is almost \$4,000 and it can take as long as eight months for an employee to become fully productive (PETERSON, 2018). Considering that the average time to fill an open position for a skilled worker is 43 days in the US, more for the aerospace industry (e.g. engineering, 58 days), the losses add up quickly (Howden, 2019).

A lack of skilled workers leads to a loss in current production capabilities, meaning you will not be able to deliver on orders.

But, in a desperate attempt to make production goals, companies are faced with high overtime costs of the limited skilled staff who are available.



If you cannot keep pace with current orders, you most certainly will not be able to expand production to meet growing customer demands.

Innovation has always been the cornerstone of the aerospace industry. But, if the skills gap continues, the ability to respond to new market opportunities and product development will also be threatened.

Just think, every month that goes by the competition is catching up in IP development, just ready to surpass your greatest achievements. And, staying ahead of the crowd is priceless.

So, if you don't want to be lost in space, make sure your LMS will be your light saber against the skills gap and....may the 'training' force be with you!

SOLUTION

An LMS can be the ally needed so desperately by the aerospace industry when it comes to the skills gap crisis.

On the whole, it's important to develop your in-house training that leverages digital technology and engages a multi-generational workforce.

But, there is also strategic LMS functionality that the aerospace industry could take to influence a more positive employment future.

Identifying the Skills Gap

It's nearly impossible to fix the skills gap if you don't know where the problem is.

This requires data.

A comprehensive LMS can provide an assortment of data related to worker competencies. This can be in the form of a test, survey or skills checklist to name a few.

And, for even better results, the LMS will offer reporting dashboards to present information in real-time and in an easy-to-read format.

There are numerous methodologies that you can employ in data-gathering. The best approach, however, is to utilize at least three. This is for the purposes of cross-validating data, confirming analysis results, and identifying skill gaps.



Reporting

Pre-assessments serve as a benchmark for employee progress, while final exams allow you to monitor how much they have developed their skills and bridged gaps.

Most Learning Management Systems feature built-in assessment reports. As a result, you're able to compile data for individuals and groups to look for trouble spots.

Creating content is important for closing the skills gap, and you could take an educated guess of what skills your employee's lack, but an LMS can confirm or disprove those assumptions with LMS reporting and analytics.

LMS reporting increases visibility of metrics, helping employers confirm the skills gaps they thought were present as well as locate other areas where additional training is needed. Reporting on course completion and quiz pass/fail rates can also help employers understand how to mold training to meet the needs of workers.

Reporting and analytics make it clear whether or not current training is getting results and ensures administrators obtain a good ROI from the LMS.

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Aerospace is fast paced so having the ability to find the skills gap efficiently with an LMS is crucial. Dashboards provide real-time information in an easy to understand format. At any given moment administrators can visibly cross check business needs versus the experience of employees and immediately address the issue with new content, mentoring, on-the-job training and the like.



Real-work Scenarios

Another way to discover where the skills gaps are is by evaluating workers on the job. And, with aerospace, this means that many of the employees aren't necessarily behind a desk but dispersed in labs, factory floors, in the field etc.

The ability to do on-the-job training or mentoring, in addition to eLearning, and have it all captured within the LMS is very beneficial for this industry. At any given time a company can quickly see who is in the pipeline for certain jobs requirements and have visibility where there might be any gaps in skills to address.

Succession planning is very important to aerospace as the older workers retire.

With an LMS capturing a 'big picture' of the skills gap it enables the company to quickly train an employee in the skills they don't currently have and then team them up with a more experienced worker 'in the field' to foster knowledge sharing. This keeps the pipeline moving and strengthens the ability to backfill and refresh your workforce.

On-boarding

It's critical to know where the gaps in skills are but it's equally important to have an on-boarding system in place that will get new employees up and running as quickly and efficiently as possible.

Expediting the application, hiring and security clearance timelines for some positions (which can stretch to more than two years from application) is helpful during the aerospace on-boarding process.

An LMS that streamlines the on-boarding process will help drive the workforce pipeline development for all job roles. And, this will be a contributing factor for combating the knowledge loss of older employees nearing retirement. So, as they leave the workforce, you'll consistently have new candidates in-process to fill those positions.

Recruiting young, qualified candidates is not easy so companies in aerospace can't afford to lose them during on-boarding. Because of the intensity of a fast-paced environment it's easy to let on-boarding fall on the wayside.

30% of workers across all industries quit a job in the first ninety days



According to a 2018 study by Jobvite, 30% of workers across all industries quit a job in the first ninety days. Compare that to less than 10% if the company has a well-structured onboarding program. An LMS can help ensure new employees have the information and skills to be successful.

With an LMS they won't have just any skills but the right skills because it enables you to adapt your training program to the needs of your learners, i.e. personalized and/or adaptive learning, and use it to close any skills gaps that they have.

Engagement is another way your LMS can set your new employees up for success on day one.

Social tools within the LMS can connect them with mentors to guide them through their first days on the job. It's also a great opportunity for your older generation to pass on their knowledge to the newbies.

New hires who are paired with a mentor to show them the ropes and ease them into the culture increases their productivity and retention keeping them engaged and feeling supported.

Work-based Learning

Work-based learning will increasingly become more popular in aerospace to fill the growing skills gap with fresh talent. This includes internships, mentorships, apprenticeships, on-the-job training and job shadowing.





Additionally, this type of training can be beneficial for upskilling current employees for positions that need to be filled.

An LMS can not only help with more traditional forms of classroom training and eLearning but it can also capture work-based learning outside the LMS. Features like a skills checklist takes a normally paper driven method and turns it into a trackable and auditable training record in the LMS.

An LMS can assist employees while they're on-the-job by providing mobile access to training as well as short learning modules (microlearning) they can quickly consult. This provides a training solution that creates very little disruption to productivity.



Additionally, it would be beneficial to consider having an employee from an older generation help a younger team member understand work culture and processes, while the younger employee helps their partner manage technology and new tools at work. This can help improve communication and training for all ages of the workforce.

Continuous Learning

Providing value to the millennial generation through continuous learning opportunities is another way your LMS can attract top talent and combat the skills gap issue in aerospace.

There's no question that students leaving college want to be part of cutting edge technology and be a part of innovation that changes the world.

And, aerospace can offer that.

Give your employees the opportunity with on-going learning and certifications that they can access on their own time and in any location.

Maybe it's a course on Advanced Spacecraft Control and Dynamics or Sensor Systems and Microsystems: From Fabrication to Application — whatever it is, this generation need to know that they have the opportunity to grow within your company.

At the end of the day, an LMS will greatly help the skills gap crisis in aerospace by

capturing critical learning info automatically in the LMS — how gaps are being closed, confirming that gaps are being closed, analyzing the data in order to scale it to the rest of the organization.





CONCLUSION

The aerospace industry is facing some serious issues in their workforce, most considerably the widening skills gap from,

- An aging workforce that is retiring at a rapid pace
- A decrease in young people choosing math, science and engineering while the demand for the same talent is increasing both in government and private sectors.

The aerospace industry is not like any other and their challenges simply cannot be addressed by any ordinary LMS or self-made learning concoction. Choosing an LMS that can meet all the needs of aerospace must be well thought out and strategic.

It must be able to handle the most complex of needs, because not every LMS can. And, what's more, it has to be able to customize as you're inventing the future.

Keeping a competitive edge and pushing the boundaries of space and the mind requires an LMS that can grow and push boundaries right alongside the aerospace industry.

Choosing the right LMS is just one small step for your business to implement but it provides one giant leap for training that will propel your business on a path of great innovation and discovery.



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