OPINION: THE AVIATION TRENDS OF TOMORROW

News / Maintenance / Trainings

As industry technologies continue evolving, *Graham Grose*, IFS aerospace & defense center of excellence industry director, shares his forecast for future industry trends.

The civil aviation sector is already a huge trend-setter in the adoption of additive manufacturing (3D Printing), contributing 12% to the industry's global revenue in 2013, and all indications are that this will continue to grow.

Several reports and real user cases have proven that there is quantifiable ROI to achieve from 3D printing by reducing material costs, decreasing labor content, and increasing availability of parts at point of use – all having a dramatic impact on the supply chain.

The 3D printing breakthrough is a fact and not news anymore. However, the rapid adoption of the technology has had consequences that companies need to consider. Lack of control of the production processes and supply chain is one of them - as production facilities grow, 3D printed parts become widely distributed geographically and items are manufactured to a larger extent on an on-demand basis, as "exceptions" that must be managed and monitored. We also see the trend of increased counterfeiting of components using 3D printing.

© 2015-2026 50SKYSHADES.COM — Reproduction, copying, or redistribution for commercial purposes is prohibited.

Combating counterfeiting

So what can companies do to address this? There are some measures that can be taken, trademarking and patents being key tools:

Trademark is the term that identifies one's brand – an example of trademark infringement would be using a brand name on a counterfeit item. Manufacturers can use differentiating technology to ensure components are highly visible. Quantum dots for instance – tiny nanocrystals made from semiconductor material – can be embedded into the authentic item, distinguishing real components from counterfeit.

The patent is the actual functionality of an item or a process – an example of patent infringement would be the manufacturing of a component or use of a process that is exclusive to that company. Patenting the right parts and processes quickly will be key, both to beat the competition and to stop the counterfeiters.

While 3D printing is rightly being welcomed in civil aviation, it will also require key changes in ERP systems to control every element of the manufacturing, maintenance and support chain processes to manage the possibility of counterfeit parts entering the support chain.

Companies must take a close look at what tools and technologies are needed to better manage the supply chain - increasing control and also monitoring counterfeiting risks to take the right actions to stop them in time.

New applications of technologies will emerge

Research and input from our customers shows that there is often a shortage of qualified maintenance engineers that can act quickly as the need arises at various locations around the world. Civil aviation organizations will have to look at how technologies can help engineers be more productive and how their skills can be 'augmented', for use in locations where they are not physically present.

One challenge the aviation industry continuously struggles with is how to reduce aircraft turn-around times on the ground. This is one area where there is a lack of qualified engineers to carry out the appropriate maintenance as quickly as possible before getting the aircraft up in the air again.

New technology, like wearable devices, can help address that with 'expertise on demand' provided remotely.

One example is Japan Airlines, which has trialed Google Glass in the maintenance process. The glasses are worn by engineers working around the aircraft on the tarmac. Images of the aircraft are sent to maintenance specialists for assessment - feeding any issues they see back to the engineer on the ground, who can carry out the work promptly, resulting in quicker turn-around times. Google Glass may have needed some rethinking for the consumer market, but wearable technology offers substantial business potential.

Another example is easyJet, which equipped its engineer's uniforms with wearable tech to make them more effective.

We are now also seeing civil aviation organizations exploring the use of drones for maintenance. Drone technology can be used for damage inspection, scheduled maintenance, spare parts

© 2015-2026 50SKYSHADES.COM — Reproduction, copying, or redistribution for commercial purposes is prohibited.

delivery or automating detection or defects.

Civil aviation organizations can achieve realizable benefits by integrating these emerging technologies into their business and maintenance processes, which can only be achieved with an agile software infrastructure in place that can adapt to new business processes.

14 JANUARY 2016

SOURCE: ATW
ARTICLE LINK:
https://50skyshades.com/news/maintenance-trainings/opinion-the-aviation-trends-of-tomorrow

© 2015-2026 50SKYSHADES.COM — Reproduction, copying, or redistribution for commercial purposes is prohibited.