

VENDOR FLIGHT LOG: STORKJET

Renata Niedziela, Managing Director, StorkJet, shares the story behind the most precise Aircraft Performance Monitoring based on QAR data and machine learning



Renata Niedziela is the Managing Director at StorkJet. She leads a team implementing the new approach to Aircraft Performance Monitoring. Her adventure in aviation started with programming her own QAR raw data reader and associated analytics tools. Renata holds a master's degree in software engineering from AGH University of Science and Technology in Cracow and an MBA from Cracow University of Economics.

Aircraft IT: Your name, your job title and the name of the business?

Renata Niedziela: Renata Niedziela, Managing Director, StorkJet

Aircraft IT: How did Storkjet get started?

RN: During my studies I received a request to develop a QAR raw data reader and group of tools enabling analytics to be applied to retrieved data. I already saw huge potential in those data. After gaining commercial experience I finally established StorkJet, five years ago. Our goal is to help airlines reduce their fuel consumption and carbon footprint. Year on year we have been expanding our team with new members: performance engineers, pilots and data scientists whose knowledge and passion

allowed us to spread our wings. In order to develop such comprehensive software, capable of recreating tail-specific aircraft performance model, a lot of R&D had to be done. Thankfully our potential was recognised by the European Union who awarded us research grants which enabled the mastering of this technology.

Aircraft IT: What is the attraction of aircraft-related software?

RN: The ability to analyze real data, reaching conclusions and optimizing future operations. Every aircraft and flight is unique and there is so much you can achieve with tail-specific analysis. The amount of information stored in the data and the possibilities of how to utilize them seem endless.

Aircraft IT: What is the guiding business principle that drives Storkjet?

RN: Our principle is to deliver the most precise, data driven solutions. Precision is crucial to reach maximum efficiency. That is why we re-invest most of our income back into R&D. We believe that by connecting aircraft performance engineering with data science we can make airline operations more efficient than ever before.

Aircraft IT: What has been Storkjet's greatest technical achievement to date, and why?

RN: We developed tail-specific performance models based on flight mechanics and machine learning that can calculate fuel consumption in any atmospheric conditions and flight phases. To

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Aircraft IT: What has been Storkjet's greatest business achievement to date, and why?

RN: The revolution in Aircraft Performance Monitoring (APM) processes. In the standard approach to APM, data processing is a nightmare. Performance engineers had to use various, complex tools for each aircraft type and run APM in semi-manual mode. Thanks to StorkJet APM, airlines can use one fully automatic solution for the entire fleet. For

example, LOT Polish Airlines can fully unify APM for ten different aircraft types, including medium and long-range Boeing, Embraer and Bombardier aircraft.

Aircraft IT: What have been Storkjet's disappointments and what have you learned from them?

RN: What we often see is that the maximum potential in the data cannot be realized, even if the airline really wants to. Reasons vary from third party dependence to legacy technology not able to support new features or procedural aspects. As we are passionate about efficiency it was really challenging for us to accept that. What we have learned is that we shall optimize as much as we can in our field and to be really flexible and find alternative solutions for problems outside our circle of influence.

Aircraft IT: In a sentence, how would you summarize what Storkjet does for aviation customers?

RN: Delivers precise aircraft performance for each tail, so that airlines can use them to plan and execute flights in an optimum way and, as a result, reduce the fuel burn.

Aircraft IT: What is new on Storkjet's development horizon?

RN: Full integration of APM performance models with fuel efficiency solutions — for in-flight and post flight applications. Also we want to expand the scope of fuel efficiency benchmarking services between different aircraft and engine types. As we are able to recreate any flight scenario, we can perform like for like comparison of aircraft operating in conditions specific to any airline. We take into account Cost Index used, distances flown, average temperatures, payloads etc. On top of fuel burn, we also compare flight time and total costs for an airline's Cost Index.

Aircraft IT: What will be the next big

thing in Aviation IT?

RN: Aviation IT has changed a lot in recent years. Now it's time to put all the concepts of 'big data' into production. I believe that, as a next step, IT vendors should talk more with each other and integrate their solutions in order to deliver more value to the airlines. For instance, StorkJet integrates with FLIGHTKYES 5D flight planning software.

Aircraft IT: What do you want your customers to say about Storkjet?

RN: That we are the leader in aircraft performance and that it is really easy to work with us. We always focus on finding solutions rather than elaborate on the challenges. Customers' re-purchase rate proves that such approach works. So far only one of our customers has not expressed an interest in expanding the scope of our partnership... yet!

Aircraft IT: Renata Niedziela, thank you for your time.

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