How IdeaNova is "caching" in on content
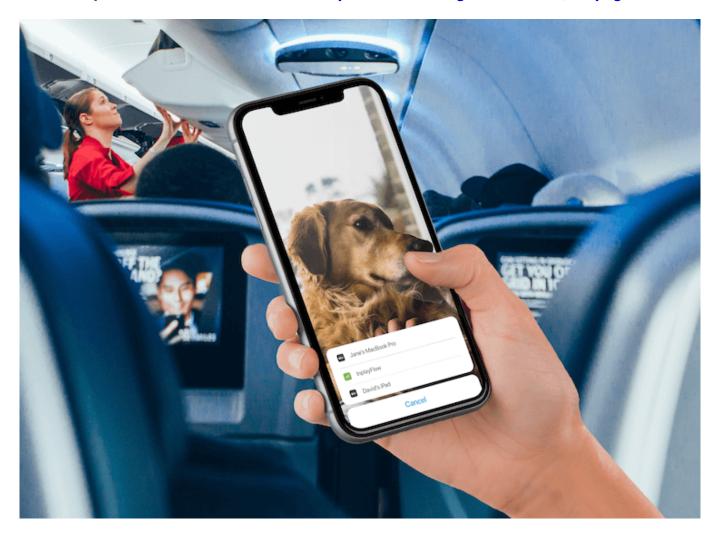
This is a special feature from *PAX Tech's* **[April 2024 Seating & IFEC issue](#)**, **on [page 20](#).**
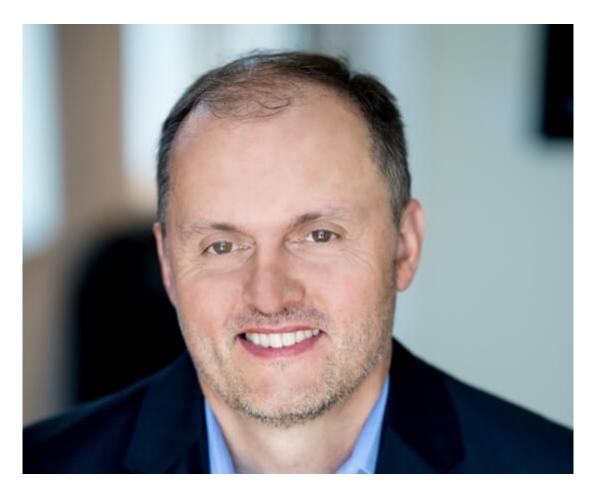

A passenger using Inplay Edge

The demand from passengers for uninterrupted inflight content streaming is ever-growing, but some airlines may not have the necessary bandwidth to keep pace and virtually no airline will have bandwidth for streaming content to all passengers at once. This is where IdeaNova Technologies Inc.'s ([IdeaNova](#)) software solution, Inplay Edge, comes into play.

The software package, designed for deployment on pre-existing IFE hardware, presents an opportunity for passengers to load the content they want to watch pre-flight, ensuring they have access to engaging entertainment regardless of the airline's inflight connectivity solution. *PAX Tech* spoke with Juraj Siska, Co-Founder of IdeaNova, about how this software is a solution to a problem plaguing many airlines.

Two benefits to airlines

Juraj Siska, Co-Founder, IdeaNova

Siska says there are two primary issues facing airlines when it comes to connectivity and bandwidth limitations. First, airlines are paying a high cost for connectivity, which scales today because only a few passengers are willing to cross the paywall to access the internet. Secondly, no connectivity provider can guarantee a sufficient level of bandwidth to stream high-quality (full high definition) content to all 300-plus passengers on a large aircraft. He adds that many passengers bring multiple devices onboard, expecting to be able to use them all comfortably.

"Inplay Edge addresses both these problems," Siska says.

The software allows the existing bandwidth to load content on the aircraft once. Then, content is cached on the aircraft for subsequent users to access via the local area network without costly internet connectivity.

The initial content load for IFE can take a long time, which is why IdeaNova recommends preloading the basic content library outside of the aircraft's connectivity. The subsequent incremental content upload is much quicker, depending on the bandwidth of the aircraft.

"How often airlines need to load new content really depends upon how much new content they want to provide passengers," Siska explains. "Typically uploading up-to-date news and current events is hard for traditional IFEs, whose content upload processes are several days, sometimes even weeks long. With Inplay Edge, this content upload is not only quick but also an economically feasible solution."

The cost of Inplay Edge is typically license-based, but IdeaNova works with airlines to find a price that meets the needs of their business models. Siska explains that one such possibility is basing the fee for the product on bandwidth cost reduction.

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What's the cache?

Caching refers to the storing of data for future use to accelerate upload times. The cache, rather than the original source, can provide the data instantly, which is why Inplay Edge was created as a software-only package to be deployed on existing IFE hardware for airlines.

"Inplay Edge operates under constrained network and hardware resource conditions," Siska says. "While traditional CDNs operate with a much larger hardware footprint, as they need to satisfy a large population of users, Inplay Edge is custom-built for aviation."

Siska explains that this allows airlines to control the storage with content that can be either pre-positioned before takeoff, or cached during the flight once it is accessed by the passenger. This solution allows airlines to use existing bandwidth more efficiently.

In terms of what kind of content passengers can access via this cached data, Siska says that once connected to the internet onboard, passengers are bound by the airline's streaming policies. If the airline allows streaming, they can preload content on the ground and populate the cache with that content even if it is not yet available onboard. Passengers without inflight connectivity can only watch cached content during a flight.

For the initial release of Inplay Edge, IdeaNova is working with content from Amagi and France 24 and is currently in discussion with other content providers.

PAX Tech publisher Aijaz Kahn (left) with Juraj Siska, Co-Founder, IdeaNova at the PAX Readership Awards 2023 in Hamburg

"A lot will depend on the success of the initial rollout as we believe this will spur further interest both from the demand side as well as from the content offering perspective," Siska explains. "Using edge

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caching on an aircraft just makes sense—and it's something we won't be able to avoid."

The potential for content providers to grow their subscription base through airline passengers is also present, with travellers inputting airline credentials to access content onboard but investing in a continued platform subscription post-flight depending on their viewing experience.

A focus on the passenger experience
Where the passenger experience is concerned, airlines that implement Inplay Edge will be able to deliver quick streaming to travellers at a reduced cost, thanks to the cached data.

The software uses open standards, making it easier to onboard additional content providers, which ultimately gives airlines more diversity in their content selection.

Airlines offering subscription video streaming services can use Inplay Edge to offer passengers access to a large library of content delivered to passenger devices or even seatback screens without interruptions or the limitations caused by low bandwidth.

Siska explains that airlines can use Inplay Edge to preload news, sports and other TV streaming updates before each flight to enhance the passenger experience.

Talking trends

Looking at movements in the current IFE landscape, Siska names connectivity as the biggest trend. Specifically, he notes that the introduction of Starlink is changing the vendor landscape and will continue to do so for the foreseeable future.

"Inplay Edge leverages connectivity efficiently and that is why we believe this technology is here to stay and will remain to positively impact aviation customers," he says.