



The New Space Race: Data Speed & Delivery

There are two battlefronts in the “new space race.” While NASA and commercial entities race for the Moon and Mars, a second race is lining up around the ability to harvest and transfer the information from the satellites growing in circulation around the globe.

Winning the new race in space requires winning the data race – mastering the challenge of handling and delivering sensor data from satellites quickly, efficiently and effectively, to users anywhere.

Mastering the Challenge of Delivering Satellite Data Efficiently

The information battlefront is being fueled by two unprecedented drivers:

- The rapid increase in the number of satellites being launched into orbit
- The increasing density of the data they collect

Pixspan’s patented technology equips companies to win the new space race by making it faster, easier, and more economical to store and deliver satellite images and data globally based on its proven Bit Exact Round Trip™ technology.

Winning the Space Data Race

After decades of near monopoly in space by governments, most satellites are now being launched by private companies. As a result, **more satellites will be launched in the next three years than all the operating satellites ever launched (Fig. 1)**. Meanwhile, the recent advances in the resolution of images have multiplied the data from each satellite.

Together, these trends are creating an avalanche of data from space, threatening bottlenecks and slowing delivery to end users. Companies are also now experiencing further complexity with another sea change in the industry – most of satellite data will be moving to the Cloud, increasing the complexity while opening new opportunities for analysis and Artificial Intelligence.

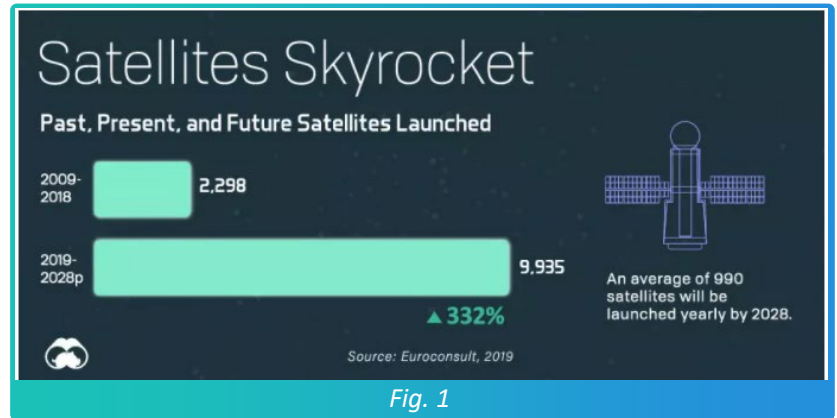


Fig. 1

The ability to handle and deliver large volumes of sensor data from satellites quickly, efficiently, and effectively to users anywhere will be essential to winning the new space race.

Pixspan has applied its patented and proven solution, for accelerating high resolution video files in the media and entertainment industry to the satellite and surveillance sector. This will help those competing in the new space race, making it faster, easier, and more economical to store and deliver satellite images and data worldwide.

Data Movement – From Satellite to End User

Pixspan takes into account the complete flow of data, from satellite to ground to cloud to end user.

Pixspan's solution can apply to each link with a combination of two technologies – data acceleration and Bit Exact Round Trip™ lossless compression.

The new reality is that over time, most satellite data will end up in the Cloud, and most users will access the data and applications from the Cloud. Pixspan applies its solutions for each leg of the data's journey (Fig. 2) – as quickly and easily as possible.

[Learn more about how Pixspan technology is being used to win the data race.](#)

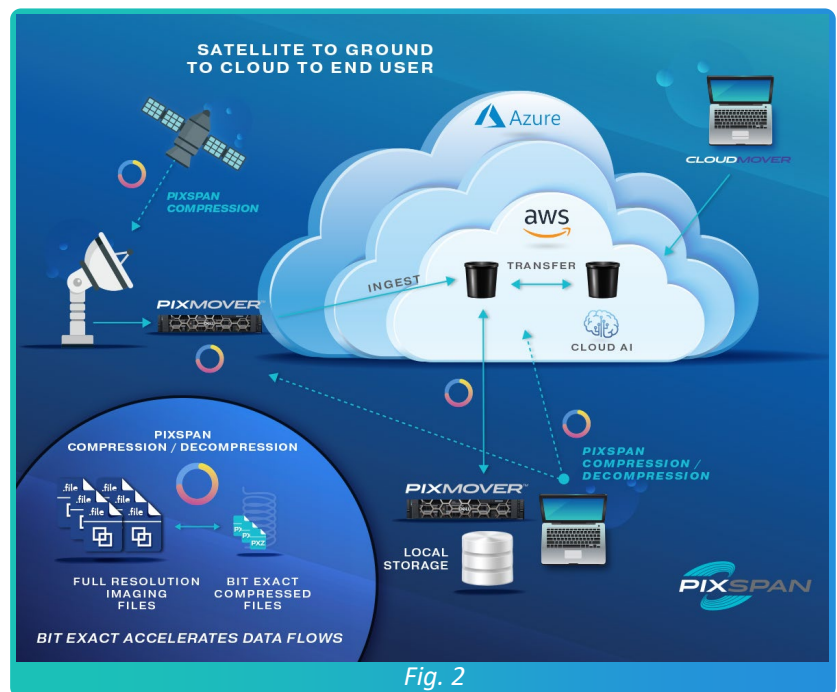


Fig. 2

Winning the Race – One Image at a Time

Pixspan is working with leading commercial companies in global satellite imaging. Satellite companies need to store and transfer increasing volumes of high resolution images, allowing easier access worldwide for collaboration across their enterprise, with partners and for end delivery to clients. Pixspan ensures bit for bit, image for image, end to end data transfers so customers can focus on their specific areas of expertise and interest.

In the race for higher quality, satellite imaging companies now require higher resolutions and with that comes the need for greater storage and higher bandwidth, be that on the satellite, in the Cloud or on the ground. When doubling the resolution, a picture of the same area carries four times as much data.

The Solution

Pixspan applies its Bit Exact Round Trip™ technology to the challenge. Pixspan has demonstrated the ability to **reduce the data of optical images with 62% savings**, while being able to **restore the data on demand *bit exact, 100% bit for bit***. As a result, the newer, sharper images can be stored in about one-third the size and delivered over the network about **three times as fast**.

Some satellite companies use Zip as an alternative for compressing the data, a general purpose technology. For the same image data, Zip reduces the image data with a savings of about 44%. Pixspan's bit exact technology saves 62% -- almost two-thirds and an incremental 32% smaller than Zip. In a similar way, SAR images were able to be reduced by 74% (Fig. 3). When compared to the prevailing compression method Deflate, Pixspan offered an incremental savings of 30%.

This advance in bit exact technology allows customers faster access to satellite images because they travel faster over scarce networks. Now satellite companies can handle images with a smaller footprint, uploading collected images more quickly and saving on Cloud storage of about one-third or more.



Fig. 3

PIXMOVER™

Pixspan's PixMover™ data acceleration software is an easy-to-use large file transfer solution proven while supporting Hollywood Production Studios, and now being applied to the Satellite, Surveillance and Medical Imaging sectors. PixMover can quickly copy and transport even the largest images from one location to another, including uploading and downloading to and from major Cloud providers such as AWS and Azure, as well as Wasabi.

While PixMover moves data one third or more faster than other methods, its patented Bit Exact Round Trip™ technology can losslessly compress and decompress image data extremely fast, avoiding the delays that can come about with slower methods.

CLOUDMOVER™

Pixspan's CloudMover™ is software that is available on the AWS Marketplace to move data ultra-fast on demand from one S3 bucket to another, anywhere in the world. CloudMover offers a choice of speeds of up to 30 TB per hour, enabling customers to have access to images for rapid analysis and building a basis for Artificial Intelligence.

Conclusion

The proliferation of satellites is producing an unprecedented flood of data. Companies who succeed and win this new space race will be those who deliver their data to customers easily and quickly. Pixspan offers the best way to store and distribute satellite imaging data for the greatest ease of use, speed of delivery, and savings.

About the Author



Michael Rowny, Pixspan Chairman and CEO, has a broad background in growing technology companies. He was previously the President and CEO of MCI's International Operations and Ventures, and has served as CEO and Director of numerous other Software and Networking companies. Michael holds a B.S. degree from M.I.T. and a J.D. degree from Georgetown University Law Center. He is on the Board of Directors of Neustar, Inc. and Ciena, Inc.



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