



## Case Study

# Matrix Solutions Inc., Canada

With over four million images to manage, environmental engineering consultants Matrix Solutions chose Third Light software for its adaptable Application Programming Interface (API), its user interface, and its capacity to handle a demanding load.

### About Matrix Solutions

Matrix Solutions is a Canadian employee-owned multi-service environmental and engineering consulting company providing scientifically sound, pragmatic and innovative solutions to clients domestically and internationally.

The company has more than 600 professional, technical, and administrative employees strategically located in 19 offices across Canada, and delivers integrated services in the areas of: assessment, remediation, reclamation and monitoring; environmental planning, assessment and approvals; and water resources.

### Matrix chooses Third Light

In May 2015, Matrix Solutions was searching for a new image management system. Their Director of Digital Integration suggested Third Light, and so the Third Light software was subjected to intensive load-testing in a project led by Matrix Database Analyst, Michelle Dyason.



“We knew that the system we had been previously using would fail under load,” Michelle says. “So we wanted to know that Third Light could handle it better.”

“We spent six weeks trying to crash Third Light. We threw everything we could at it, and it continued to stand up.

“It’s solid, it’s intuitive, it’s ‘one picture, one place’, and it’s ‘API-first’. We’re at an early stage with using Third Light, but we can already recommend it.”



Carla Froyman Parker, Environmental Scientist



## Why Third Light? “It’s solid.”

“We’ve got somewhere between seven and ten terabytes of photos stored on our hard-drives,” Michelle says of the data set Matrix is managing. “Four million images.”

“The vast majority of our pictures are site photos. These are photos taken on our worksites, of plants, soil, animals, water, etc. These date back 30 years or even more. A lot of our photos are now taken on iPhones, so they’re each between one and three megabytes in size – fairly small, but there’s a lot of them.

“Right now if we’re doing a wildlife survey on one clients’ site, we might bring back 100,000 pictures. We could have 50 cameras installed for six months, taking between 10 and 100 shots every time they’re triggered.

“Our images end up in our printed reports to clients, but they’re also a valuable resource for future work. If a site’s condition was looking good in May, but there’s a distinct change in November, then having easy access to our images helps us assist our clients with environmental impact challenges.”



“We’ve uploaded 40,000 images so far and by next year we hope to have all four million in the system.

“It will be the one location for all our images and video.”



## Why Third Light? “It’s intuitive.”

“Previously, all Matrix Solutions’ images were stored in folders organized according to site and project numbers. If staff were aware of, and connected to a project, then finding the imagery was simple. If, however, a team was working in the same geographical area – but for a completely different client – they didn’t even know the first images existed.

“Unless you keep these things all in a system somewhere, you’re never going to find them.”

Third Light’s powerful metadata functionality is designed to solve this problem.

“Now we have just three top-level folders,” Michelle says of the new approach to image organization.

“Everything is sorted, found, and retrieved using metadata. It’s a bit scary at first, because you’re taking all these photographs and lumping them together.

“All 600 of our people must be able to upload, find, and use photos every day, so people do need to learn how to search.

“In our last system, you just didn’t know where to look.”



“Third Light is an intuitive system, and that was one of its biggest selling points. Our people are able to use it with minimal training.”

– Michelle Dyason,  
Matrix Solutions Inc.





## Why Third Light? “It’s ‘API-first.’”

“In looking for a new image management system, our mantra was, ‘It must be API-first’. All too often, you see a product and decide it’s great, bring it in and hook your in-house stuff to it, only to discover that the API doesn’t work so well.”

The API is critical to Matrix’s work because of the suite of technical third-party applications that the company already works with, including Prometheus, OrientDB, PostGIS, AngularJS Leaflet, Iconic, and Reconyx.

For example, when a Matrix site image is first uploaded into Third Light, its GPS location metadata is also synchronized with a web mapping tool. This is an invaluable process to Matrix, making its research correlation deeper, and resource-planning more efficient.

The Third Light API has been the platform upon which Matrix has built a clutch of sophisticated in-house wrappers and service layers to coordinate these cross-application processes.

A custom-made uploader has already been launched to facilitate the organization’s unique uploading and metadata-tagging workflow, and a logger is in the making which will enable Third Light users to apply Matrix design standards to specified

InDesign document templates. All of this innovative integration logic is marshalled via a Go service layer, running tasks between systems with a Rabbit message queue.

“The uploader is running well,” Michelle says. “And we’ll know by this time next year whether or not we have succeeded in building something truly useful. We’ve found the Third Light team to also be very responsive to questions, which is great.”



“ We had to have an API that wasn’t going to fall down.

One of our biggest attractions to Third Light was that the company uses its own API. ”





## Why Third Light?

“It’s ‘one picture, one place.’”

“One of our big image problems has been duplication,” Michelle says.

“We would take a picture in the field and stick it in a folder, and then we’d put it in a document. The document would then be copied to another department. Then a copy would be taken by another project and repeated for a different use. Eventually that one original picture, instead of using 10 MB in one place, is using 60 or 70 MB in many places. When you’ve got four million pictures out there, you’re talking about a lot of space.

“One of the nice things about Third Light is that you can take an image and stick it in other Lightboxes, or Collections, and know that the system isn’t duplicating the photo. It’s leaving the photograph where it originally was, in the size that it was initially uploaded, but still making it accessible to other projects.

“This space-saving is important now, but it will become even more of an issue when we are using more video. Because our field photography is increasingly being captured on iPhones, we will no doubt be storing more video in future, and Third Light makes us ready for this.”

“Our clients trust us to have answers fast. Easy image access ensures we’re responsive.”

“As an IT department, we work with employees who serve our clients. Providing an easy-to-access image management system where we have quick answers to client questions is a win for our business.

“If our staff think there is something to be gained by using the Third Light image management system, and they are actually using it, then we will have succeeded in what we are trying to do.”

– Michelle Dyason,  
Database Analyst, Matrix Solutions Inc.







## Proud to work with Matrix Solutions Inc.

The Third Light Application Programming Interface (API) allows third-party developers to access core library functionality without the need to use the web interface.

The API exposes a wide variety of methods for both reporting on the system, and performing actions. The API is accessed using HTTP requests with JSON encoded data. It provides a large number of commands and is expanding all the time.

"It's striking to see the Third Light API being used so effectively," says Michael Wells, Third Light founder and Managing Director.

**"The technical innovation and ambition behind the project at Matrix Solutions highlights why a rich, tested API is important.**

"It demonstrates why all APIs should be used in-house as well as by customers.

"In this case, Matrix's team have tackled very specific and proprietary integration projects using the same API that we use to create Third Light's user-interfaces. We've shared notes along the way, adapting on both sides to get the best possible result.

"Many thanks to the fantastic team at Matrix Solutions for sharing their experiences and feedback so openly with us."



**"It's striking to see the Third Light API being used so effectively."**

– Michael Wells,  
founder of Third Light.

### About Third Light

Third Light is a software and internet services business based in Cambridge, UK. Our core business is to develop and host specialist solutions for digital media management, storage and collaboration, while minimising technical complexity. Key clients include Cambridge University, the United Nations, NASCAR, Virgin Group, Fujitsu and many other businesses. We have supplied web-based asset management tools to businesses since forming in April 2002.

**Get your FREE trial today: [thirdlight.com](http://thirdlight.com), or call 01223 475674 for a demonstration.**

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Third Light's media management solutions are software products designed for corporations, media agencies, and marketing teams to allow digital content to be managed, stored, displayed and shared using the web. Third Light software has been widely deployed to solve many of the digital challenges that are common to all businesses, and is used in a wide range of sectors to simplify and improve the way that digital files are handled.

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