



NCTECH CASE STUDY



Next generation asset management with iSTAR Pulsar

Headquartered in Victoria, Australia, Icon Spatial is a surveying and spatial management company with a primary focus on major infrastructure projects. An innovative firm, Icon continually seeks to leverage the latest technology to save time and improve the service it offers its clients – from the latest imaging systems and artificial intelligence to augmented reality, drones and more. The firm was one of the first companies to start using the [iSTAR Pulsar](#) system from NCTech for collection of 360-degree image data from a moving vehicle.

A key part of Icon's offering is to combine imaging with the latest mapping software to create accurate, visually rich interactive asset management solutions. These are used by large organizations like road operators and councils to manage and maintain assets like road signs, lighting, fire hydrants, and other roadside items.

Icon is currently working with Australia's largest toll road operator on compiling asset information for input into the operator's enterprise asset management system. Icon collects visual data of a location along with GPS coordinates and a time stamp and then extracts information on individual assets from the data.

With more than 20 years' experience in the spatial industry across the construction, mining, services and forestry sectors, Jason Clark is Director of Icon Spatial.

“Collecting better data today means better solutions in the future,” says Clark. “We aim to combine 360 imaging with drone or vehicle-based laser scanning to build a complete 3D environment, which gives us the kind of data needed to support future developments in AR and autonomous vehicle operation.”

Icon has always used a range of different technologies for collecting image data. But some of the collection products and services are very costly, often combining LiDAR with 360-degree imaging and highly accurate GPS data.



The NCTech Solution

In 2018, Icon discovered the iSTAR Pulsar – a big data capture system which is designed specifically for the task of capturing moving 360-degree imagery – developed by NCTech in association with Sony and Intel. At a fifth of the price of the high-end systems, iSTAR Pulsar was seen as a competitive alternative for Icon to use for image data collection. iSTAR Pulsar also enables Icon to expand the use of 360 imaging into other areas of its work, including road accident investigation, and in-building asset management.

“We’re always looking for new options to support our data capture requirements,”

says Clark. “It’s very useful to have a tool like iSTAR Pulsar, which can be used either on a vehicle for long distance or a backpack for internal or off-road environments.”

Today, collecting data for Icon’s asset management systems couldn’t be simpler. A company employee drives a pre-defined route in vehicle with iSTAR Pulsar mounted on it. Data is then automatically uploaded to NCTech’s VR.World cloud for processing and posting to Google Street View. Alternatively, the imagery can be utilised via private viewing options whereby Icon then uses computer vision software like Mapillary to extract asset information such as signs, lighting and barriers from the images.



Next Steps

Icon is set to upgrade to iSTAR Pulsar+ to take advantage of its offline image processing capabilities. This will allow the firm to process the images themselves rather than in the cloud, which is important to some of its clients from a data security perspective.

Clark sees iSTAR Pulsar's simplicity and flexibility as its key asset. **"It's so easy to use – we've even used it on a project where we collected data from a boat to get a view of waterfront properties from the water to support a local council with better planning information."**

The state of Victoria has recently release new guidance on its digital capture standards for asset owners. Having accurate, up to date information on assets is now linked to lower insurance premiums.

"In the past, organisations have performed this kind of asset management manually and infrequently," says Clark. **"A car-mounted solution like iSTAR Pulsar makes this much faster and easier. And now lower cost than ever before too."**

