

## Konecranes stargazing crane integral to new \$97m Exmouth Space Surveillance Telescope facilities



Two Konecranes underslung CXT double-girder cranes were selected for installation and maintenance of Australia's new Space Surveillance Telescope's main building in Exmouth, WA. (Image credit: Sitzler)

A new \$97.2 million\* Australian space surveillance project is receiving expert materials handling from Konecranes for the installation and maintenance of the main telescope and building.

Konecranes, which is a global leader in cranes and lifting equipment and service to a diverse range of industries, provided two CXT double-girder underslung cranes with lifting capacities of 15 and 20 tonnes, to safely and efficiently receive and install materials on the new Space Surveillance Telescope being installed in Exmouth, Western Australia.

The cranes were underslung (meaning the crane track was suspended from the ceiling) due to the compact spaces involved in the building, and due to lots of other structures that needed to be installed in the same tight space.

Additionally, one of the cranes had to be able to remain locked in position as the dome rotates, so that it could still perform all its usual functions at whichever angle the building is facing. The section of the building where the crane was

attached is capable of rotating up to 17 degrees per second, with rate of rotation varying according to the telescope's particular usage.

## Project Background

The project – including the 270 tonne rotating dome, telescope, building and supporting facilities - is being built for the Australian Defence Force by managing contractor Sitzler, and is on track to meet initial operating capability in 2021.

Sitzler, established in 1976, is a highly regarded Australian construction company delivering quality projects safely, in an environmentally and socially conscious manner.



The cranes had to be installed in compact locations, with unique specifications to suit the project's materials handling precision and safety requirements. (Image credit: Sitzler)

Exmouth was selected as the site for the telescope as it provides clear and dark sky conditions with low light pollution. The project has provided a large boost to employment in the town, with more than 25 local businesses engaged and more than 145 residents having worked on-site.

Department of Defence said the telescope would increase the capacity to detect and track objects in space to manage threats, including space debris, and predict and avoid potential collisions\*.

## Unique crane requirements

The telescope project required customised cranes that were tailored to its unique needs, so Sitzler worked with Konecranes to ensure the cranes had the right structure and features to meet all installation and maintenance requirements.

“The cranes needed to meet tight space requirements, and utilising underslung cranes – which are typically involved in one in every hundred projects – provided better hook approaches to suit the client’s lifting requirements,” explains Ms Claudia Estrada, Project Manager, Konecranes.



In addition to the cranes above the main dome, a second Konecranes CXT underslung crane was installed in the material receiving bay, to lift, move and position incoming materials for installation. (Image credit: Sitzler)

The cranes both featured Konecranes’ Extended Speed Range (ESR) smart feature, which meant they had a variable speed drive for additional precision and control when lifting delicate and valuable parts.

“ESR was particularly valuable for this project, because the telescope’s powerful mirrors, which are the key to its functionality, are highly valuable items. If one mirror becomes damaged during installation, it’s a very expensive and highly specialised part to replace,” says Ms Estrada.

Mr Paul Gurr, Project Manager, Sitzler, says that Konecranes was selected because its cranes met all the complex specifications required for this important project.

“In addition to the ESR and other functionality specifications, there were extra safety requirements for locking of the crane while rotating, and Konecranes was able to meet the stringent requirements,” he said.

“Konecranes is a world leader in safety and the brand is known for its quality, reliable products. These qualities, plus their ability to meet all the customised needs of this project, were major factors in the decision to recommend Konecranes as the overhead crane equipment and service provider,” he said.

“Right from the beginning, Konecranes was thorough with detailing and reporting, which helped us with the smooth and efficient management of the project, and ensured we remained on schedule.”

“Their installation work was also of outstanding quality. Their staff were well qualified, experienced and completed work efficiently and productively, with excellent communication with other involved companies.”

The construction of the telescope building and support facilities has now been completed, and preparations have begun for the telescope to be installed, calibrated, tested and evaluated.

\*Source: <https://news.defence.gov.au/media/media-releases/space-surveillance-telescope-building-handover>

#### Additional Information:

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#### About Konecranes, Inc.

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