

GENERAL ANNOUNCEMENT::CSC GRANTED PATENTS FOR INVENTIONS SUPPORTED BY BCA'S PRODUCTIVITY SCHEMES

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CSC granted patents for inventions supported by BCA's productivity schemes

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Please refer to the attachment.

Attachments

[CSC_Granted_Patents_For_Inventions.pdf](#)

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FOR IMMEDIATE RELEASE

CSC GRANTED PATENTS FOR INVENTIONS SUPPORTED BY BCA'S PRODUCTIVITY SCHEMES

- ✓ **Mobile Site Reporting System eliminates duplication of work, minimises risk of human error and enables Management to make informed decisions quickly**
 - ✓ **Productivity improvement crucial in current labour crunch situation**
 - ✓ **RC Pile Handler ensures safety in transfer of heavy and elongated objects**
 - ✓ **Patent granted in five countries; pending approval in four others**
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SINGAPORE, 23 September 2020 – Mainboard-listed foundation and geotechnical engineering specialist, **CSC Holdings Limited**, has been granted patents for two inventions developed over the past several years as part of the Company's effort to reduce costs and increase productivity. The patents pertain to the **Mobile Site Reporting (MSR) System** and the **RC Pile Handler**, which were developed with funding support amounting to S\$370,000, by the Building and Construction Authority's Productivity Innovation Projects ("PIP") scheme and Mechanisation Credit ("MechC").

Mr See Yen Tarn, CEO of CSC said, "Operating in an environment where margin and manpower challenges abound has made us realise the importance of building resilience through innovation. We are thankful to have pushed through with several productivity and safety solutions since some years ago, as these have become even more crucial to us today, given how the Covid-19 outbreak has impacted the foreign worker situation."

MSR System

The MSR system is an on-site production reporting mobile application that electronically captures site data such as daily production records, site journals and inventory and machinery movements in real time. These digitised data are then processed automatically into management reports such as project revenue claims, inventory control and project management report. In the past, the daily site production data were manually captured in notepads and transferred onto hardcopy pile installation forms for record. Daily operation activities covering manpower deployment, machinery movements and delay occurrences were also manually recorded in hardcopy reports. The duplication of work was not only



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unproductive; the handwritten data and manual calculations were subject to human error and the reports sometimes misplaced.

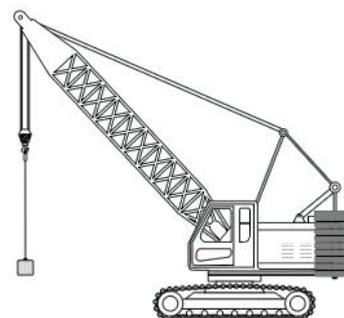
The one-time data entry feature ensures timeliness and data integrity, which along with the ease of information retrieval, enables the Company to make informed decisions much more quickly. The system is compatible with all



devices and has enabled CSC to improve its productivity by 33%, and achieve a 25% savings on manpower and 150% improvement in site recording efficiency among others.

RC Pile Handler

The RC Pile Handler is an innovative method that allows for the safe and efficient transfer of heavy and elongated objects, such as reinforced concrete (RC) piles, through its grip mechanism. Prior to this, traditional crawler cranes would be used to transfer the RC piles, lifting them up, suspending them in mid-air where they could yaw and sway, before moving and lowering them to the desired spot. This was labour intensive as it required substantial coordination and high concentration among a minimum of seven workers.



With the RC Pile Handler, the pile sections are lifted by a pair of forks and secured with a pair of clamps before being transferred efficiently and safely to the desired location within about two-thirds of the time.

This has led to significant productivity gains for CSC, including a 71% savings on manpower and 50% increase in number of piles handled per day and cost savings of about 73% per pile installed. Notably, the invention was awarded the Silver prize for Productivity and Innovation Award by the Singapore Contractors Association Limited.



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The RC Pile Handler has been granted patents in Singapore, Brunei, Cambodia, Indonesia and the Philippines, and is awaiting patent approvals in Laos, Malaysia, Thailand and Vietnam.

BCA's PIP scheme, and MechC which was discontinued in 2018, were aimed at encouraging construction-related companies to embark on projects that build up their capabilities and improve their processes, to achieve higher site productivity through defraying the cost of technology adoption.

About CSC Holdings Limited

CSC Holdings Limited (SGX: C06) is Singapore's largest foundation and geotechnical engineering specialist, and one of the region's leading ground engineering solutions providers for private and public sector work, which include residential, commercial, industrial and infrastructure projects.

The Group operates principally as a foundation and geotechnical specialist and offers a full range of capabilities in this field, including the construction and installation of large diameter bored piles, diaphragm walls, driven piles, jack-in piles, micro piles, soil improvement works, soil investigation and instrumentation services, as well as automatic tunnel and structural monitoring survey. More information on CSC Holdings can be found at www.cschl.com.sg

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