SOLAR 55 WV plus

Operating Weight: 5.550 kg
Bucket capacity (SAE): 0,07 ~ 0,19 m^3
Engine Power: 42,4 kW (57 Hp) / 2.400 rpm

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DOOSAN DAEWOO

Performance

The most advanced hydraulic circuit for powerful excavation and work efficiency as well as the powerful engine for the biggest pulling up force and tractive force- the innovative work performance of Solar55WV Plus ensures you the highest work efficiency with excellent adaptation to the spot.

Composite Operation Capability Improved

Maximum combined operation capability is guaranteed by a sophisticated engine and hydraulic control system. This system allows the engine and hydraulic system to be controlled to fit various working environments such as digging or lifting operations requiring high pressure and large hydraulic flow or grading operations requiring low pressure and small hydraulic flow.

Powerful Digging Force

Powerful digging force of 3,63 ton from the 57 Hp (SAE J1349, net) engine achieves excellent performance quickly within a short time under any working conditions. In addition, an engine control lever is installed on the left control stand in the cabin to make it easy to control working speed.

Boom Swing

The convenient boom swing function allows work in very narrow areas. The newly designed swing bracket and the increased boom cylinder size ensures powerful and stable boom swing performance.
Left: 80° – Right: 50°

Gradeability

The travel speed of 30 km/h and acceleration assure excellent performance in traveling or moving from / to worksites. Its excellent gradeability is manifested when traveling uphill.

Breaker-Dedicated Line Installed

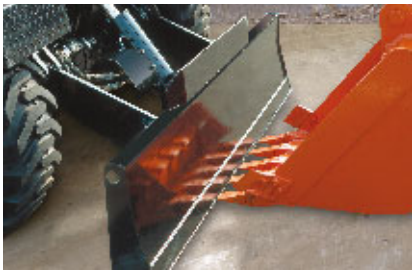
The hydraulic pipes have been installed up to the front end of the arm as standard equipment, for easy installation of the two way piping. A lock device is mounted on the end of the hydraulic line to prevent leakage of hydraulic oil when connecting the breaker.

YANMAR 4TNV94

Solar55WV Plus, which has the powerful and eco-friendly heart, always provides high operation efficiency and pleasant work condition.

Highest Dump Height

The maximum dump height of 4.300 mm is the highest among the same-grade machines and enables easy loading operation onto a 15-ton dump truck.



Bucket End and Dozer Blade Arrangement

The bucket end is designed to reach the dozer blade when the arm is folded. This feature improves efficiency in grading operation as well as stone lifting operation.

Large-capacity Dozer Blade

This machine is equipped with a large-capacity dozer blade (412 x 1.920 mm) ensuring excellent earth-moving operation. Its powerful dozer blade force can be used efficiently for operations on a slope.

Large-Capacity Fuel Tank

This machine is equipped with a large-capacity fuel tank (120 l) enabling continuous operation for two days before refueling. The fuel port has been raised to prevent leak when operating on a slope.

Ground Clearance

The ground clearance has been raised (290 mm) to minimize possible damage to the undercarriage when traveling on rough ground or working at a slope. In addition, the blade's ground clearance is high to the extent that it doesn't interfere with curb stones when performing road repairing or construction work.

Axle Osilation

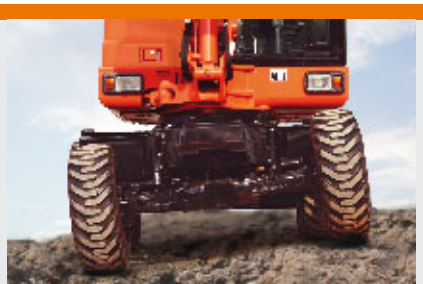
The machine's center of gravity needed when traveling, swinging, or performing other various operations is repositioned to the rear side so that the machine may not be shaken to assure high-grade stability, and the upward/downward adjustment angle of the front axle (+/- 5 degree) is so great that the machine performs stably on rough or uneven ground.

Engine control lever

The engine control lever is placed in a very convenient location.

Dozer Blade Control Lever

The dozer blade control lever is positioned on the right-hand control stand to secure easy and convenient access.



Working Environment

Ruling out the conventional concept of small equipment, Solar55WV Plus provides operator with maximum comfort and various convenient apparatus. Solar55WV Plus, the very product born by innovative technology of excavator! Cab space more comfortable and cozy than any other equipment.

Comfortable Operating Area

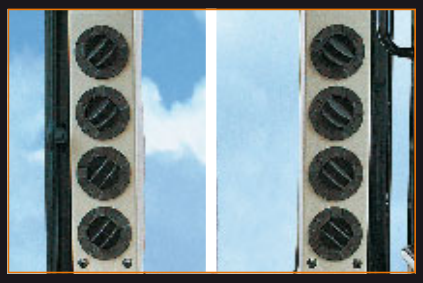
The internal operating controls are arranged in a convenient and ergonomic fashion. This allows for maximized operating efficiency. A large capacity air-conditioning system has been installed for operator comfort in all seasons. The open and spacious cabin provides the operator with a wide field of view for the best possible working conditions.

The handle with tilting function

The handle with tilting function is adjustable (forward & backward) to provide the best operation and to minimize operator's fatigue.

TOPS (Tip-Over Protection Structure) (ISO 12117)
FOPS (Falling-Object Protection Structure) (ISO 3449: LEVEL-1)

The Solar55WV Plus cabin has been incorporated with the high strength TOPS feature which meets international standards to protect the operator from being injured by the cabin structure in the event of a tip-over. In addition, the operator is protected from heavy falling objects by the FOPS cabin, which meets international standards. These safety features provide a safe haven for the operator to work in.



High-Output Air-Conditioner and Defroster

The air-conditioner capacity has been greatly improved and the vents have been installed at both the front and rear of the operator's seat to maximize air-conditioning efficiency. A defroster has been installed to prevent the front windshield from becoming frosted in the cold season resulting in safer operation.

Joystick

The hydraulic joystick lever with agreable grip touch and easy operation ensures excellent performance in minute operation. Especially, the two (left) & three (right) buttons on the top of joystick are very convenient for diverse attachment works.

Switches

As all switches are placed in compliance with human engineering, the convenience is maximized for operator.

Fixed-Type Instrument Panel

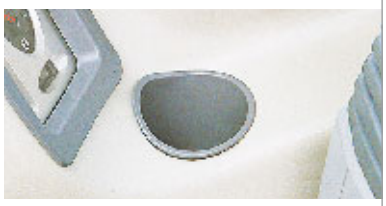
Compact and elegantly designed central instrument panel makes it easy to check for various implements.

Various Convenience Devices

Front Defroster and Lower Vent

Footwear Storage Box

Foot Rest/Travel Pedal



Cup Holder

Rectangular Structure Cabin

For safety purposes and to protect the operator against falling objects, the cabin structure is designed in a rectangular shape, ensuring operator safety.

Control Stand

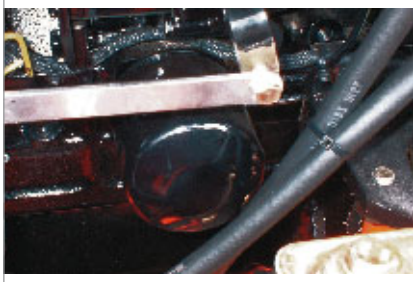
Left and right control stand designed by human engineering lay-out ensures not only easy operation but also sufficient space to install option switch. Furthermore, being designed in the single body type of plastic material, it provides operator with comfortable cab space.

Suspension Seat

Responding to the weight of operator, the suspension with excellent shock-absorbing power ensures long time operation comfort.

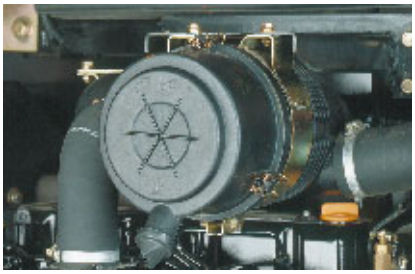
Maintenance

The powerful performance of excavator developed by the most advanced technology of DOOSAN Heavy Industries and Machinery Ltd. is integrated in the Solar55WV Plus to ensure simple and easy maintenance. Providing operator with the highest service so that he can check for himself, Solar55WV Plus maximizes work efficiency.



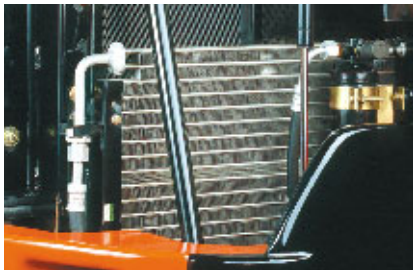
Engine Oil Filter

The engine oil filter is attached to the engine body and extends out for easy maintenance.



Dual-Filter Air Cleaner

The high-performance dual-filter air cleaner eliminates dust from entering the engine. The cover is a one-touch open/close type allowing easy maintenance.



Radiator

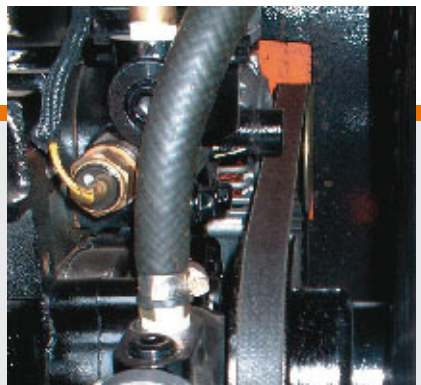
The large-capacity radiator provides excellent performance in severe and continuous operations. The assemblable dust net on oil-cooler front side prevents overheating from filth.

Engine Bonnet (Hood) / Engine room

Engine compartment is designed for easier service and the engine room sturdy rubber inside the engine cover reduces the noise to give comfortable environment to the operator and the resident in urban areas.

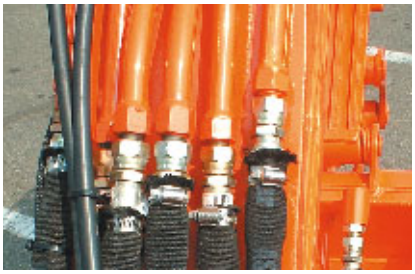
Fan Belt Easy Tension Adjustment and Replacement

The spacious area around the fan belt enables easy tension adjustment and replacement. The mounted B-type belt has a greatly extended replacement interval.



Air Breather

The hydraulic system is designed to prevent pump cavitation.

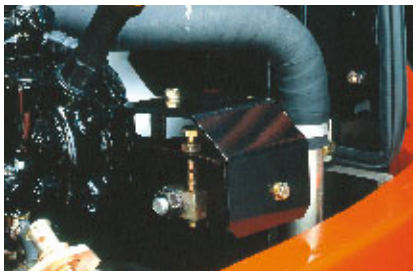


Sleeve Protector

Sleeve protector with high resistance to wear is equipped to prevent the highpressure hose from being damaged or broken and working oil from splashing when it is damaged.

Fuel Level Gauge

The fuel level gauge has been relocated to the lower section and makes it easy to check the remaining fuel level.

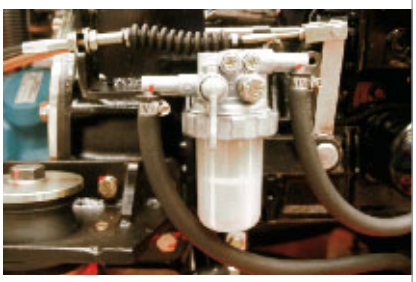


Air-Conditioner Belt

Idle pulley is mounted so that it is easy to adjust belt tension and replace the belt.

Grease Piping

Integrated grease piping is designed to easily maintain boom swing cylinder, swing reduction gear, swing bearing & pinion gear.



Water Separator

The transparent glass water separator is easily accessible from the ground allowing easy maintenance of the fuel system.

Bonnet Protector

An over-sized protector is installed on both sides of the counterweight to prevent possible damage to the bonnet when operating in a mountainous region or any place having many obstacles. Also, a net protecting the engine compartment prevents entry of foreign objects.

Auto Fuel Dispense Pump

To reduce inconvenience in dispensing fuel at the work site, an auto fuel dispense pump has been installed.

Engine oil drain

The engine oil drain with quick coupler provides fast and enviromentally serviceability.

Technical Data

Engine

Model
YANMAR 4TNV94

Type
Water-cooled, 4-cycle, direct injection

Aspiration
Natural

Number of cylinders
4

Rated flywheel horse power
SAE J1349, gross 42,4 kW (57 Hp) at 2.400 rpm

Piston displacement
2.776 cc

Maximum torque
18 kgf.m (176 Nm) at 1.600 rpm

Bore and stroke
94 x 102 mm

Starting system
12 V electric motor

Batteries
1 x 12 V x 100 Ah

Hydraulic system

2 variable displacement axial piston tandem type pumps.
2 gear pumps and control valve (10-spool) of section block construction.
This original design enables both independent and combined operations of all function, joystick control type operations.

Main pumps
2 variable displacement axial piston pumps.
Max. oil flow 2 x 60 l/min

Pilot pump Gear pump
Max. oil flow 21,4 l/min

Steering pump Gear pump
Max. oil flow 38,9 l/min

Swing motor
Relief valve 216 bar (220 kgf/cm^2)

Main relief valves
Boom/Arm/Bucket 225,5 bar (230 kgf/cm^2)
Travel circuit 225,5 bar (230 kgf/cm^2)

Hydraulic cylinders

High-strength piston rods and tubes are used. Cylinder cushion mechanism is provided for boom and arm cylinder to assure shock-free operation and extend life of cylinder.

Cylinders	Q'ty	Bore x Rod dia. x Stroke
Boom	1	110 x 60 x 710 mm
Arm	1	85 x 55 x 860 mm
Bucket	1	80 x 50 x 600 mm
Dozer	1	110 x 60 x 175 mm
Boom swing	1	110 x 55 x 547 mm

Operator's cab

A roomy, independent, shock and noise-free operator's cab, 4 side safety glass windows give all-round visibility. Front window slides up and stores in the roof. Side window can be opened for ventilation. Fully adjustable suspension seat. Air conditioner. ISO standard cab.

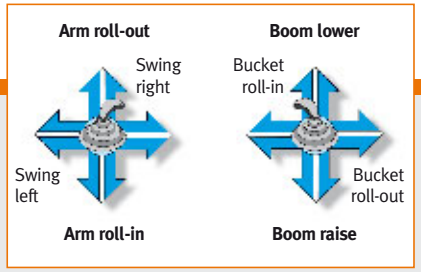
Noise Levels (dynamic value)
LwA external noise:
– Guaranteed Sound Power Level
100 dB (A) (2000/14/EC)
– Measured Sound Power Level
99 dB (A) (2000/14/EC)
LpA operator noise:
79 dB (A) (ISO 6396)

Super-structure revolving frame

A deep, full-reinforced box section. Heavy-gauge steel plates used for ruggedness.

Controls 2 implement levers

Pilot pressure control type. Right lever is boom and bucket control, left lever for swing and arm control.



Brake

Full sealed wet discs service brakes and rear axle sealed wet discs parking brake operated hydraulically.

Swing mechanism

High-torque, axial piston motor with planetary reduction gear bathed in oil. Swing circle is singlerow, shear type ball bearing with induction-hardened internal gear. Internal gear and pinion gear immersed in lubricant. Swing parking brake is spring-set, hydraulic-released disc type.

Swing speed
0 to 9,1 rpm

Rear swing radius
1.650 mm

Drive

Fully hydrostatic driven, 2 speed mechanical shift transmisson, variable displacement, high torque, axial piston motor, foot pedal controls provide smooth travel, hub reduction type front steering axle and rear rigid axle.

Travel speed (High/Low)
30/8,1 km/h
A maximum speed restriction of 20 km/h is available as an option.

Maximum Tractive Force
3.000 kgf

Gradeability
30,6° (59%) continuous

Undercarriage

Heavy-duty frame, all-welded stress-relieved structure.Top grade materials used for toughness. Specially heat-treated connecting pins. 12-16.5-12PR(OTR) tubeless single tires. Front axle oscillating hydraulically (+/- 5°).

Weight

Equipped with 3,0 m boom, 1,6 m arm, and 0,174 m^3 (SAE heaped) bucket and rear dozer: **5.550 kg**

Major component weight (kg)

Arm : 1.600 mm	122
Boom : 3.000 mm	262
Upper structure	2.734
Counter weight	240

Service refill capacities (liters)

Fuel tank	120
Cooling system	10
Lubrication	
Engine oil	9,7
Swing drive	1,5
Final drive (each)	1,5
Hydraulic tank	80

Safety

- Safety glass windows
- Electric type horn
- Spring-set/hydraulic-released disc type travel parking brake
- Main relief valves, make-up valves
- Overload relief valves, hydraulic brake valves
- Engine coolant temperature gauge
- Monitor for before starting (engine oil level, engine coolant level and hydraulic oil level)
- Monitor for during operation (engine oil pressure, engine coolant temperature, alternator charge, air cleaner clogging and fuel minimum level)
- Alarm buzzer (engine oil pressure and engine coolant temperature)
- Working lights pilot lamp
- Lever lock

Optional equipment

Safety
- Rotating beacon

Cabin & Interior
- Sun visor

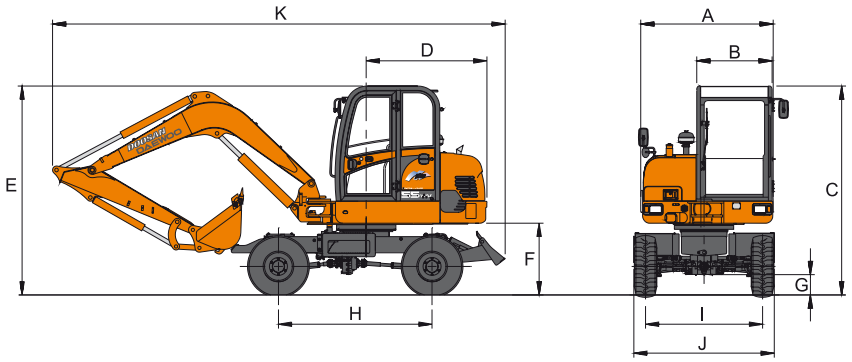
Bucket

Capacity		Width		Weight
SAE, heaped	CECE, heaped	Without side cutters	With side cutters	
0,174 m^3	0,15 m^3	654 mm	724 mm	170 kg

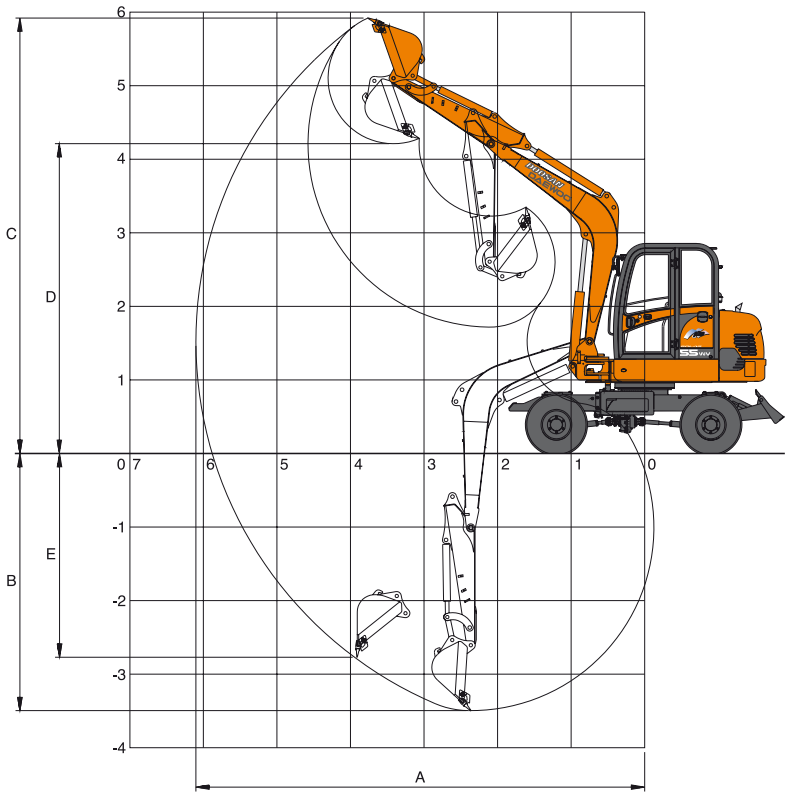
Dimensions & Working Ranges

Dimensions

A	Overall width of upper structure	1.820 mm
B	Overall width of cab	1.030 mm
C	Overall height of cab	2.856 mm
D	Tail swing radius	1.650 mm
E	Overall height	2.856 mm
F	Clearance under counterweight	815 mm
G	Ground clearance	290 mm
H	Wheel base	2.100 mm
I	Tread	1.600 mm
J	Overall dozer blade width	1.920 mm
K	Overall length	6.187 mm



Working ranges



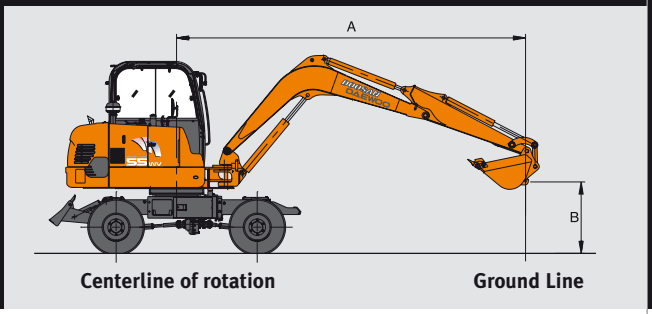
Digging forces (SAE)

		1,6 m
Bucket digging force	kgf	3.630
	kN	35,5
Arm digging force	kgf	2.600
	kN	25,4

Boom length	3.000 mm
Arm length	1.600 mm

A. Max. digging reach	6.102 mm
B. Max. digging depth	3.496 mm
C. Max. digging height	5.920 mm
D. Max. dumping height	4.212 mm
E. Max. vertical wall digging depth	2.770 mm

Lifting Capacities



Dozer Up

Boom : 3,0 m
Arm : 1,6 m
Bucket : SAE 0,173 m³ (CECE 0,15 m³)
Unit : 1.000 kg

A(m)	2		3		4		5		6		Max. Reach		
													A(m)
B(m) 4					*0,95	*0,94					0,77	0,75	4,55
3					*1,11	0,92					0,79	0,62	5,04
2	*2,63	2,60	*1,87	1,38	1,38	0,88	0,96	0,61			0,86	0,56	5,26
1	*1,28	*1,28	2,11	1,29	1,33	0,84	0,94	0,59			0,87	0,55	5,26
0	*2,18	*2,18	2,06	1,25	1,31	0,82	0,93	0,58			0,92	0,58	5,02
-1	*3,37	2,43	2,05	1,25	1,30	0,81					1,08	0,68	4,52
-2	*4,22	2,48	2,08	1,27							1,55	0,96	3,61

Dozer Down

Boom : 3,0 m
Arm : 1,6 m
Bucket : SAE 0,173 m³ (CECE 0,15 m³)
Unit : 1.000 kg

A(m)	2		3		4		5		6		Max. Reach		
													A(m)
B(m) 4					*0,95	*0,95					*0,77	0,77	4,55
3					*1,11	0,98					*0,79	0,66	5,04
2	*2,63	*2,63	*1,87	1,48	*1,41	0,94	*1,25	0,66			*0,86	0,60	5,26
1	*1,28	*1,28	*2,58	1,39	*1,74	0,90	*1,39	0,64			*0,99	0,59	5,26
0	*2,18	*2,18	*2,93	1,35	*1,95	0,88	*1,33	0,63			*1,23	0,62	5,02
-1	*3,37	2,65	*2,92	1,35	*1,98	0,87					*1,65	0,73	4,52
-2	*4,22	2,71	*2,52	1,37							*1,93	1,04	3,61

Note 1. Ratings are based on SAE J1097
2. Load point is the hook on the back of the bucket
3. * = Rated loads are based on hydraulic capacity
4. Rated loads do not exceed 87% of hydraulic capacity or 75% of tipping capacity

: Rating over front
: Rating over side or 360 degree
o : Ground

DOOSAN Infracore

DAEWOO becomes DOOSAN

On the 29th of April 2005, the DOOSAN group acquired DAEWOO Heavy Industries & Machinery.

By taking this action, Doosan – with estimated sales of € 9 billion in 2005 and a workforce of 23,000 – is firmly consolidating its position among the ever smaller number of heavy equipment manufacturers around the world.

The company, now a major player with regard to industrial and public-sector infrastructure projects, is looking decisively towards the future with its advanced technologies and its investments in research and development.

The group's strengths are built on over 100 years of experience, & a solid financial structure, allowing it to commit to large-scale investments for ensured future success.

DOOSAN Infracore intends to become a worldwide leader in offering total industrial solutions to its clients.

Thierry Deschamps : *"Our aim is to become a targeted 'total service provider' by developing and integrating a range of different activities above and beyond our main area of work. The DOOSAN Infracore group's resources and expertise will allow us to move forward and broaden the portfolio of products and services we offer."*

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