



Powered by our people

Delivering Innovative Solutions

the future

of window and façade cleaning



Cost saving



Sustainable



Fast



Safe

A fully autonomous
system, set to disrupt
the industry.

the journey...

Many methods have
been used over the
years but always
involved working
from height.



Limitations continue with restrictions on how high you can reach or permit requirements that can't be approved in cities...



now we have Kite

NJC is in Partnership with Kite Robotics bringing the first genuinely autonomous vertical robot to the UK and Ireland. This innovative solution will disrupt the commercial window cleaning market. Using the latest technology, the Kite Robot is revolutionary providing vertical cleaning to glass, aluminium and stone façades.



NJC is committed to delivering innovative robotic solutions in commercial window cleaning.

benefits

safety & sustainability

- Removes significant risk of having operatives working at height
- Built in stability controls allowing for automatic stop/start during periods of high wind
- X5 points of attachment, all capable of holding the robot independently
- Saves up to 48% on water per clean
- Saves up to 85% on energy per clean
- Uses purified water
- Earns BREEAM credits

A system influenced by safety and sustainability as key factors.

An innovative solution, that will disrupt the commercial window cleaning market.



cost effective...

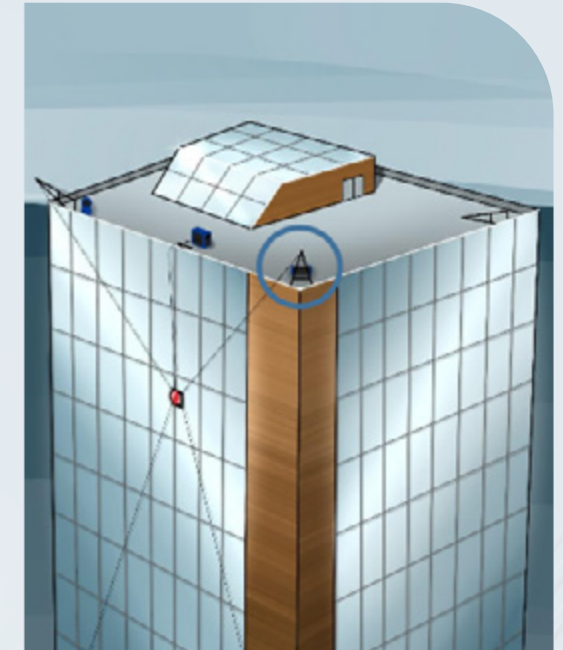
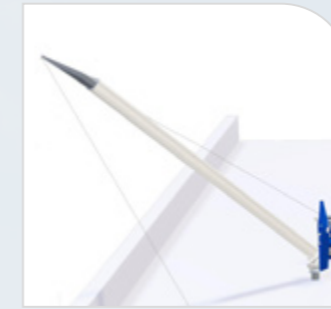
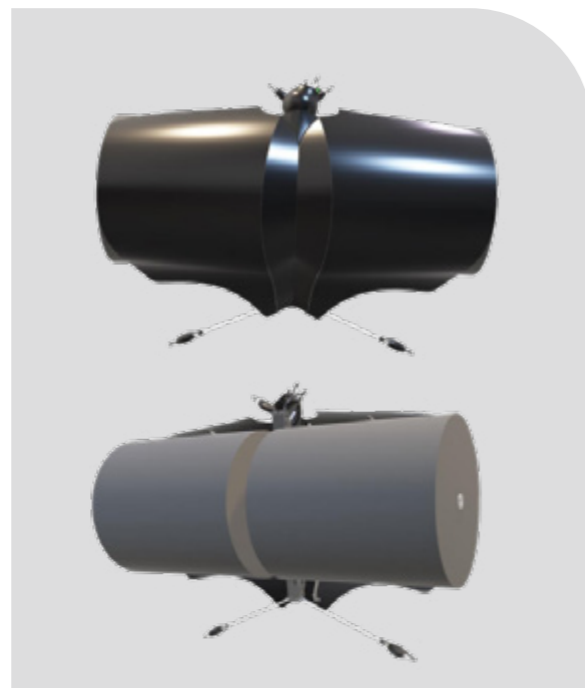
- Significant capital and operational costs removed
- Potential of significant development benefits through alternative roof uses
- Can be retrofit or built in at design stage, making it versatile across many buildings old and new
- Clean more frequently for the same money or the same frequency for less money
- The system cleans everything, windows, frames and panelling
- Cleans up to 6x faster covering between 300 m² to 800 m² per hour
- Guaranteed cleaning of the entire façade means major maintenance in the long term is reduced
- Optional camera fixing which allows for façade inspections

how it works...

the system

A fully autonomous system, set to disrupt the industry.

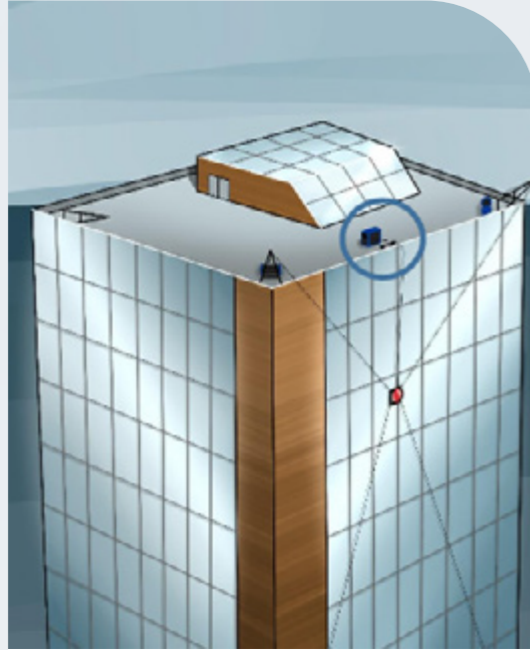
- The standard system works with an intelligent cable set-up
- The Kite Robot cleans windows, frames and panelling by means of a rotating brush with purified water, providing an effective way of remove dirt, dust and stains
- The varying brush rotation direction cleans all corners and indentations
- The water is purified with reverse osmosis technology and does not contain any hazardous chemicals, ensuring environmentally friendly, residue free cleaning
- Brush diameter, density and rotation speed depends on the façade geometry and glass indentations
- It is easy to connect to the building and once in place it calibrates itself and automatically starts cleaning
- Productivity is between 300 – 800 m² per hour, depending on the façade 'smoothness'



anchors/fixtures

- On a standard building the robot attaches to the four corners of the façade by four light weight wires and is navigated by specially developed winches on these corners
- If required, the fixtures can be tailor made to meet the specific building requirements
- Locations can also be changed depending on the building design and façade layout
- With the 'smart movement' cable system, the robot follows the contours of every surface perfectly
- After cleaning the fixtures are rotated downwards
- The winches can easily be disconnected and moved to another position

The number and complexity of anchors across buildings may vary based upon the site complexity.



water power supply (WPS)

- The WPS cable supplies both water and electricity to the robot brush
- The WPS cable is spooled on the WPS winch and has a separate fixture in the middle of the façade
- Like the other fixture the WPS winch can also be easily disconnected and moved to another position
- The WPS winch is fed with water by the RO installation which would need a source from the main water supply of the building
- The RO installation can be positioned in any plantroom of the building at roof level or in a special anti-freeze conditioned casing on the roof
- The RO system is fully controlled by the robot when it starts and stops cleaning

The robot uses an RO system to feed it purified water, leaving the glazing and façade to dry spotless.

The system can be retrofitted to developments or built in at design stage, making it versatile across many buildings new and old.



cables

- Lightweight synthetic material
- Excellent UV resistance
- Excellent abrasion resistance
- Extremely high breaking load
- The same cables are used in the Volvo Ocean Race





Having two versions of the model on the market, allows both vertical and horizontal façades to be accessed and cleaned.

suspension

(for horizontal application only)

- Wheels are tireless to adapt to the surface underneath (windows, frames, etc)
- Allows smooth passing and protection to surface
- Wheel dimension depends on the obstacle height

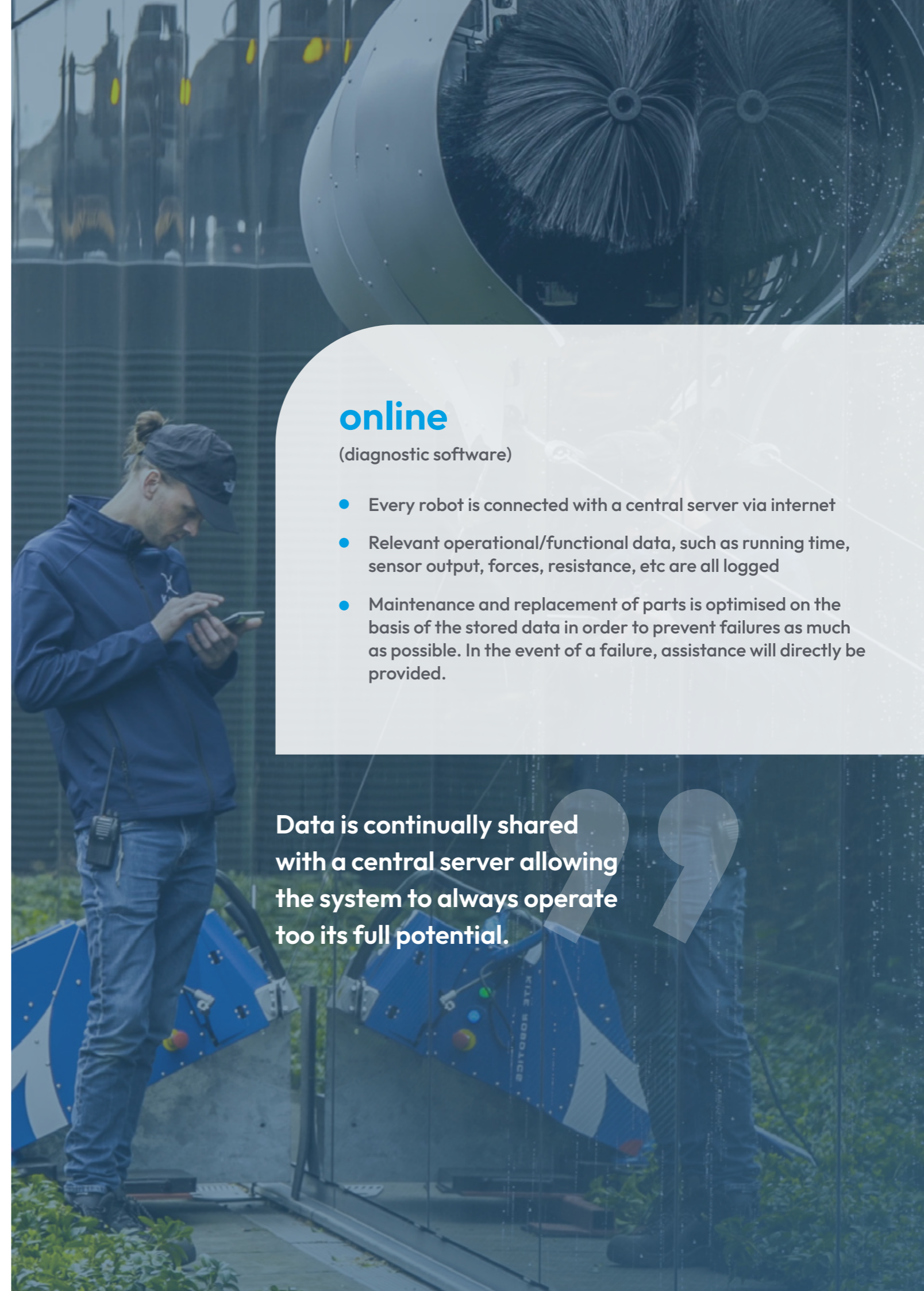


online

(diagnostic software)

- Every robot is connected with a central server via internet
- Relevant operational/functional data, such as running time, sensor output, forces, resistance, etc are all logged
- Maintenance and replacement of parts is optimised on the basis of the stored data in order to prevent failures as much as possible. In the event of a failure, assistance will directly be provided.

Data is continually shared with a central server allowing the system to always operate too its full potential.



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