

M. JEON, B.G. KIM, D. HONG. **Maintenance robot for wind power blade cleaning.** *Gerontechnology* 2012;11(2):377; doi:10.4017/gt.2012.11.02.411.00 **Purpose** Recently, wind power systems have increased in size as a function of economics of scale and they have become large offshore complexes¹⁻³. Approaching a wind power blade is very hard because not only are the blades set up at the sea but also the winds are very high. Nowadays wind power blades are cleaned by people using ropes and a small water jet. The operation is dangerous and inefficient. Therefore, we need a robot for blade maintenance. **Method** In order to keep the wind power system reliably in operation, both the moving robot mechanism on the blade's curved surface and the blade-clean-up mechanism for maintenance repair are needed. The moving robot mechanism on the blade's curved surface looks like INCHWorm, and it can move vertically on the blade. The vertical moving robot is loaded with a clean-up robotic mechanism. The blade clean-up mechanism on the vertical moving robot can clean the blade surface using a water jet, and brush. The water jet sprinkles water on the blade and cleans the surfaces (*Figure 1*). The brush moves horizontally and cleans the blade curve surface. **Results & Discussion** This paper suggests the blade-clean-up mechanism robot for maintenance of wind power blades. Not only is this robot automatically workable for blade cleaning, but it also saves time.

References

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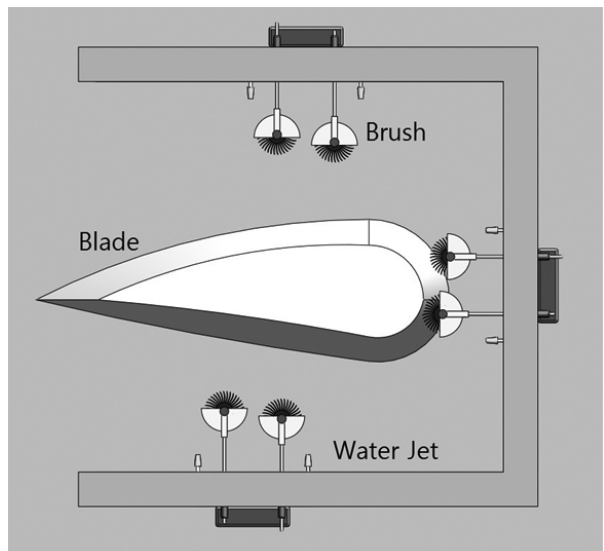


Figure 1. Concept of wind power blade cleaning robot