

Case Study

 Vestas France & TotalEnergies –
Dainville Wind Park

“The main objective was to perform leading edge repairs with maximum efficiency”



Gérald Briclot
Special Tasks Supervisor at Vestas

This on-site visit is very important for us because we can clearly see the preparation. This gives us 100% confidence in your teams.



Scan code for Case Study Showreel:
<https://youtu.be/C7PI6nTRcfQ>



Location:
Dainville, France



Turbine Model:
Vestas V110



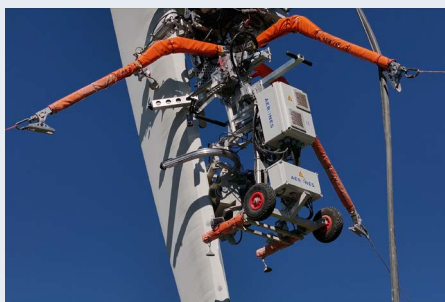
Task:
**Leading Edge Repair (LER)
on 12 turbines**

Project Overview



At the Dainville Wind Park in France, Aeronex deployed its Leading Edge Repair (LER) robotic system to carry out repairs on 12 Vestas V110 wind turbine generators (WTGs) for client TotalEnergies.

The main objective was to perform leading edge repairs with maximum efficiency while maintaining safety and consistent quality standards. The category of erosion for all 36 blades was up to CAT 3, with no lamination required for any of the blades.



Project Parameters

Location:



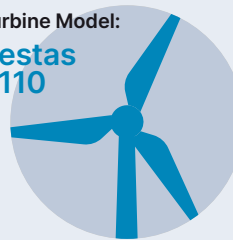
Client:

TotalEnergies



Turbine Model:

Vestas V110



Idle Time Expectation:

14%



Task:
Leading Edge
Repair (LER) on

12
turbines



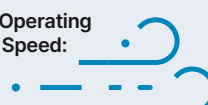
Target
Workload:

30

hours
per turbine
(3 days x 10 hrs/day)

Max. Operating
Wind Speed:

12 m/s



KPI Goal:
**1 blade
repaired
per day**



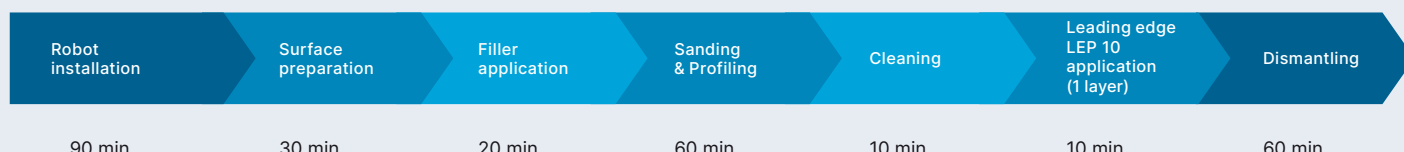
Process Outline

Improved approach

Automated
application with
LER SPA

New LER SP

Automated
application with
LER SPA

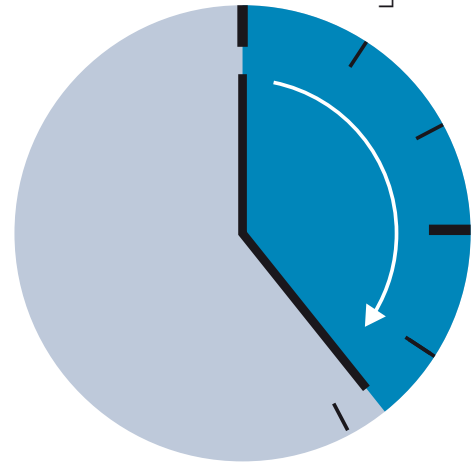
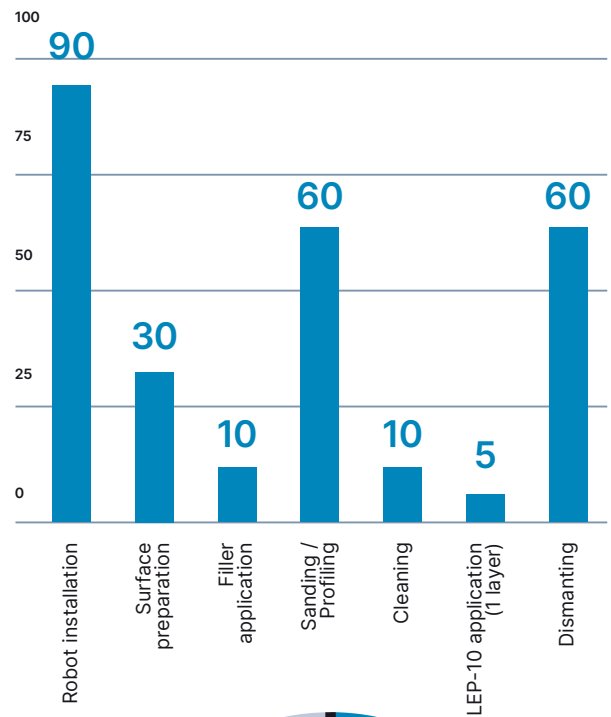


Aeronex used its proprietary leading-edge repair robotic technology. After a thorough blade assessment, the blades underwent sanding and grinding, followed by cleaning and filler application. Based on performance considerations, LEP 10 was selected as the preferred leading-edge protection coating.

Results



Minutes



Average time spent on
a blade during project -

4h 40* minutes

* includes curing delay idle

Compared with conventional repair methods, Aeronex' robotic system demonstrated a significant reduction in repair time, particularly in the preparation and curing stages, as shown in the chart above.

Key Insights

Aerones robots achieved over 30% faster repair times compared to traditional methods.

The project exceeded KPI targets, completing more than 1.3 blades/day, surpassing the industry benchmark of 1 blade/day.

Reduced technician fatigue and risk due to remote-controlled robotic operations.

The efficiency gains directly translated to reduced downtime and optimized turbine availability for TotalEnergies.

Client Reviews



Tiphaine Logiou
QSHE Coordinator
for TotalEnergies in France

We were very interested to see this operation on site. Since it is a robot that carries out these operations, we no longer have rope access work, and under French labor law, rope work should be limited as much as possible. As soon as there is another solution, we must use it. The robot meets all these needs, and we are also much faster in setup time, faster in service time, and also safer in terms of exposure to chemicals.



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Special Tasks Supervisor
at Vestas

This on-site visit is very important for us because we can clearly see the preparation: the setup of safety markings to respect the drop zones, the marking of the various cables used to lift the machine, the seriousness of all your teams, and the fact that you are also trained by Vestas on locking the machines, which allows you to be fully autonomous. This gives us 100% confidence in your teams.

Conclusion

By integrating robotic LER technology, TotalEnergies was able to accelerate repair timelines, ensure consistent repair quality, and reduce the risks associated with rope access methods.

The Dainville Wind Park project highlights how Aerones' robotic solutions deliver faster, safer, and more cost-efficient maintenance for leading energy operators worldwide.

Ready to enhance your wind turbine performance?
Contact us today: info@aerones.com

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