



# Integrating Data Technology into the Blade Service Quality Process

Dallas, September 20, 2017

# About WindCom: Facts International



Over **22,000** blades inspected and/or repaired around world



Blade data management system with over **25,000** detailed cases



Projects in **25** countries addressing the most challenging customer needs

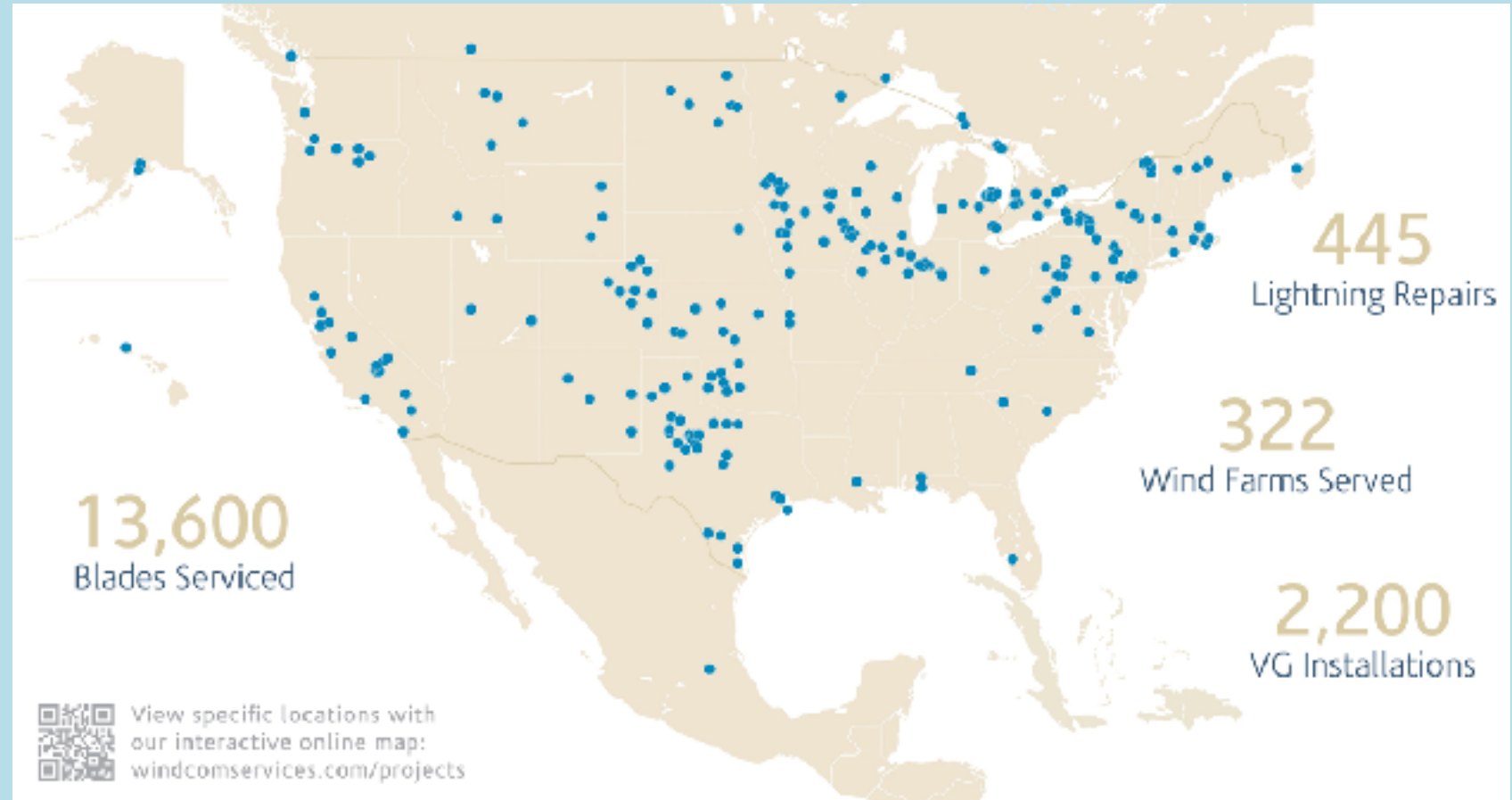


Built a team of over **310** professionals

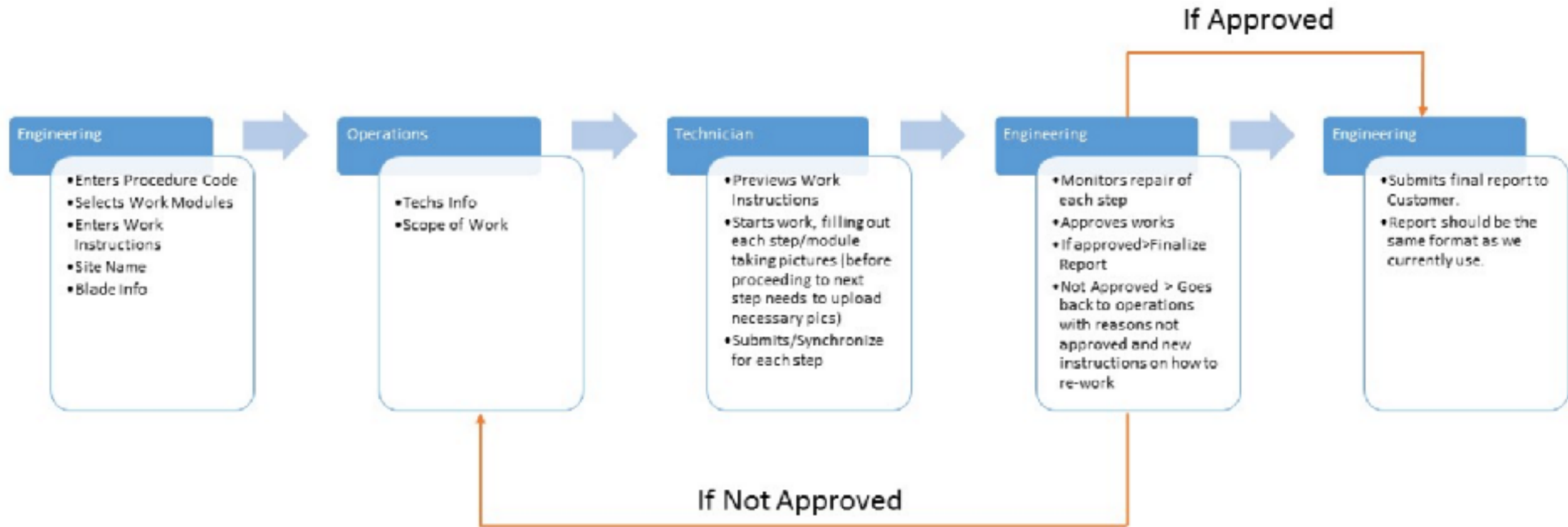
# About WindCom: Wind Farms Served in North

We Support  
5 OEMs

17 Wind Farm  
Operators



# Web Based Application and Work Instruction



# Work Instruction Hold Points

## Quality Control



Prevent Warranty Claims



Evaluate Product Performance

### HOLD POINT



**\*\*HOLD POINT\*\***

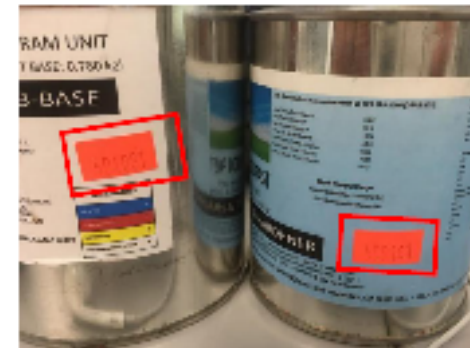


**\*\*TAKE PICTURE(S)\*\***

1. TAKE A PICTURE AFTER CLEANING THE BLADE SURFACE.
2. TAKE A PICTURE AFTER SANDING THE REQUIRED BLADE SURFACE.
3. TAKE A PICTURE AFTER CLEANING THE BLADE SURFACE.

### Material Batch Numbers

Ensure to take a picture of the Batch numbers (orange stickers) of all of the materials used for each LEP installation. The pictures must be uploaded to the Additional Pictures / Housekeeping section of the report. Also, ensure to fill in this information where the report asks.



























# Automatically Generated Repair Reports

## Summary Report

- **Automatically Created:** tabulates all the information gathered from Inspection / Repair Reports
- **Customizable:** displays information most valuable to the specific customer

## Repair Report

- Contains all technical data
- All hold point successfully released

Repairs							
SN	WTG	Before grinding:	After sanding:	After bonding paste:	Lamination:	After sanding PU:	Paint:
6435	167						
7500	252						
7660	262						
6896	232						

# Inspection Reports - Similarities and Differences

PDF

VS

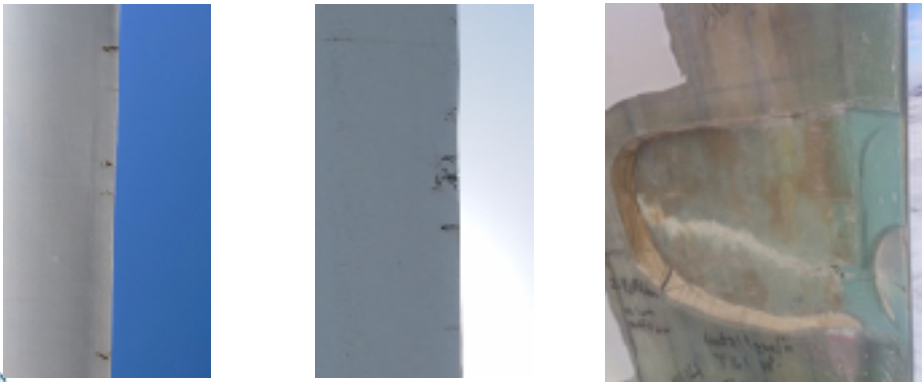
eReporting

Sufficient for individual  
damage assessment

Allows for Data Analysis

Identification of damage patterns, rate of  
damage progression resulting in preventive  
maintenance campaigns.

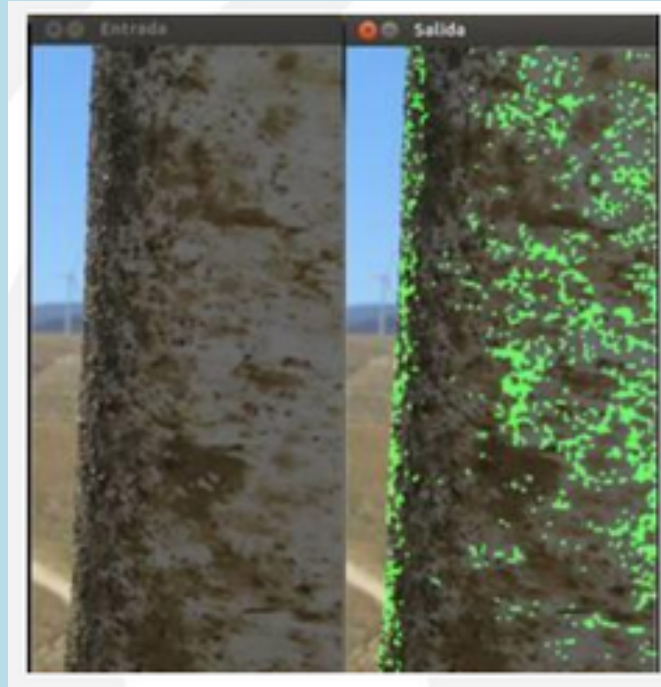
Optimized process from budgeting to  
execution to reporting





# Artificial Intelligence - Damage Type and Severity

- Determines damage type and severity objectively
- Engineering overhead reduced
- Processing of images is completed in hours instead of days
- Damage type and severity standardization resulting in optimized BoMs and Budgeting and execution
- Damage progression monitoring





# Benefits



Essential for ensuring root cause of critical damages is addressed during the repair process



Creation of secure and customer owned data base which may be exported or transferred upon request



Software based analysis standardizes damage identification and classification



Disruptive blade failure pattern identification



Damage progression motorization resulting on a predictive maintenance plan



Reduce downtime, critical damage incidences and overall cost with a long term maintenance plan



# Thank you. Questions?

*"Information's pretty thin stuff unless mixed with experience."  
– Clarence Day*



For all your wind turbine composites servicing needs

**North America**

Houston - USA  
T. +1 281 227 5130  
F. +1 281 227 5192

**Europe**

Madrid -Spain  
T. +34 91 241 10 02  
F. +34 91 293 51 96

**South America**

Sao Paulo - Brasil  
T. +55 15 2105 4800  
F. +55 15 2102 4875

[info@windcomservices.com](mailto:info@windcomservices.com) | [www.windcomservices.com](http://www.windcomservices.com)