**Project Title: predicting the energy output of wind turbine based on weather conditions**

**BE**

**RC**

**PR**

**AS**

**CC**

**CS**

**Focus on PR, tap into BE, understand RC**

**Focus on PR, tap into BE, understand RC**



**Explore AS, differentiate**

**5. Available solution:**

Available solution takes lot of time in identifying the energy output of wind turbine. utilised aerostructural simulations data for a turbine and applied regression trees to forecast turbine power output, accounting for wind speed, turbulence and shear.

**Team ID: PNT2022TMID39908**



**Define CS, fit into CL**

**1. Customers Segment:**

* The onshore segment dominated the market and held a revenue share of

71.66% in 2021.

**6. Customer Constraints:**

* Wind turbine revolves around harnessing wind energy to power a daily use product like lights.

**9. Problem Root Cause:**

The mechanisms of leading edge erosion, adhesive joint degradation, trailing edge failure, buckling and blade collapse phenomena are considered.

**7. Behaviour:**

Wind energy is tied to variabilities of weather patterns, especially wind speed, which are irregular in climates with erratic weather conditions.

**2. Problems/ Pains:**

The biggest problem with wind turbines is that they can be loud and unsightly, sometimes harming the physical environment.

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| **8. Channels of behaviour:**  Behaviour include the functions of wind turbine weather it works properly with all the mechanisms included.  **10. Your Solutions:**  Our studies are carried out on publicly available weather and energy data for a wind farm. We report on the correlation of the different variables for the energy output.  **Extract online & offline CH of BE**  **CH**  **SL**  **TR**  **3. Triggers:**  The energy output of a wind farm is highly dependent on the weather conditions present at its site. If the output can be predicted more accurately, energy suppliers can coordinate the collaborative production. |
| **4. Emotions:**   * Most significant is the hub height wind speed, followed by hub height turbulence intensity and then wind speed shear across the rotor disk.   **EM** |

**Identify strong TR & EM**

**J&P**