windsim

PRODUCT FACT SHEET
WINDSIM ACCELERATOR

POWERED BY THE CLOUD

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ACCURATE, FAST AND USER FRIENDLY WIND RESOURCE ASSESSMENT

WindSim Accelerator helps wind farm investors, developers, consultants and operators develop projects with superior accuracy in less time. This is achieved by a seamless workflow performed in the cloud.

The superior simulation accuracy secures wind farm profitability, allowing for increased energy production, reduced maintenance costs and improved financing. Project risks are lowered by using WindSim Accelerator – with high accuracy, high speed wind field simulations.

At a Glimpse

- CFD technology
- Data retrieval, model definition and wind fields simulations in the cloud
- Post-processing on desktop
- Subscription-based software-as-a-service

Features

- Dashboard displaying status of subscription, available credits, credits used per project
- Option to invite additional users to WindSim Accelerator

- Map (up to 80% time saving*)
  - Area selector with easy access to ESRI elevation and roughness data
  - Roughness editor
- Model
  - 3D model generator with grid specifications, numerical model options
  - Grid visualizations
- Wind Fields (up to 90% time saving*)
  - Editable input parameters
  - Credit estimate preview per project
  - CFD-based simulations
  - Simulation status information

Benefits

- Optimal turbine placement
- High accuracy and reliable results, trustworthiness
- Ability to run more granular projects
- 'Unlimited' model size
- Ability to run multiple projects simultaneously
- Higher productivity
- Reduced project development time, time freed up
- No local hardware investment
- Accessibility and scalability (multiple users, devices and locations)
- Resilience and security
- Continuous access to upgrades through regular releases, always up-to-date
- Predictable costs

Advantages

- Higher, realistic AEP
- Lower CAPEX
- Lower OPEX
- Improved project RoI
- Bankability
- Better and faster investment decisions
- Reduced risk
- Higher competitiveness

*compared to traditional WindSim methodology

HOW IT WORKS

The relevant area is selected and elevation and roughness data is extracted via integrated ArcGIS data in the Map module and a grid file is created. A 3D model is created, based on the grid file and input properties in the Model module. To reproduce the local wind climate many simulations of the local wind fields are required, representing different wind directions, different atmospheric conditions and seasonal variations. In the cloud all these simulations can be done simultaneously in the Wind Fields module. Each single simulation can also be parallelized. Additionally, wind farm projects can be run simultaneously - all in all lowering the execution time. WindSim Accelerator can lower your execution time by a factor of up to 90%. Post-processing takes place in WindSim 11 or WindSim 12.

WHAT USERS SAY

"Previously we were using different third-party programs and sources to gather and prepare roughness and height data. This is a time-consuming process that could take up to half a working day. With WindSim Accelerator, this can be as quick as 30 minutes for an experienced user when the available Windsim sources are of sufficient accuracy for the calculation".

Ove Undheim,
Principal Wind Resource Analyst,
Statkraft Wind & Site Team

"The pre-processing module in WindSim Accelerator has improved the efficiency of our workflow. Easy access to high-quality data has reduced both the project execution time and the room for errors, as well as making it easier to introduce our methodology to new employees."

Eivind Myklebust Støvne,
Wind Energy Advisor,
Kjeller Vindteknikk Department,
Norconsult

"WindSim Accelerator's new features have helped us to significantly reduce the time spent on desktop preprocessing. It allows us to create multiple projects at the same time easily, with seamless GIS data handling and automatic grid modelling."

Utku Turkyilmaz,
Senior Wind Resource Analyst,
Wind & Solar,
Fortum Corporation

About WindSim

WindSim pioneered the use of CFD technology to optimize wind turbine placement. WindSim's advanced simulations deliver value for every type of terrain —from the simplest to the roughest—maximizing energy production wherever your project may be. Our highly accurate simulations provide precise results in robust, meaningful reports complemented with rich graphics and interactive 3D visualizations.

Discover why wind energy industry leaders worldwide use WindSim's software and professional services to design the best wind farms possible. Contact us at sales@windsim.com

Stay one step ahead.