windsim

FAQ
WINDSIM ACCELERATOR

POWERED BY THE CLOUD

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HIGH ACCURACY WIND FIELD SIMULATIONS IN LESS TIME

WindSim Accelerator helps wind farm investors, developers, consultants and operators develop projects with superior accuracy in less time. This is achieved by wind field simulations 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
- WindFields simulations in the Cloud
- Subscription-based software-as-a-service

GETTING STARTED

Q: What are the benefits of WindSim Accelerator compared to only using the desktop version?
A: WindSim Accelerator allows the user to run the WindSim wind field simulations in the cloud. The reduced simulation time depends on which computer the user is currently using to run simulations. Even users with supercomputers might experience times of high demand. By utilizing the cloud solution this demand can be handled. For more information take a look at our product fact sheet.

Q: Will we need any additional licenses?
A: If you have a WindSim 11 or 12 license you do not need an additional license to run the wind fields in WindSim Accelerator. If you are running an older version of WindSim you will have to upgrade to WindSim version 11 or 12.

Q: What do I need to do to migrate to WindSim Accelerator?
A: To run projects in the cloud you need a license for WindSim version 11 or 12, and to request access to the WindSim Accelerator platform. If you are currently running WindSim 10 or earlier, you will have to upgrade. Contact us on sales@windsim.com.

TECHNICAL

Q: How does WindSim Accelerator work in terms of running parallel sectors and is it possible to run a single wind direction on multiple CPUs to speed up the process?
A: WindSim Accelerator allows multiple sectors to be run in parallel, significantly reducing the total time required to complete the simulation. For example, if there are 36 sectors, each taking 10 hours to complete when run sequentially, the total time is 360 hours. However, if these 36 sectors are run in parallel using a cloud-based setup with one CPU per sector, the total time is reduced to 10 hours. It is also possible to run each sector on multiple CPUs. For example, using 4 CPUs in parallel on a single sector could reduce the processing time to 4 hours. (The reduction in processing time may not be linear and depends on the project)

Q: Is it possible to run multiple projects simultaneously in WindSim Accelerator?
A: Yes. You can run as many projects as you like, but please ensure that you have enough credits available to run them through to completion.

Q: How do I track simulation progress?
A: When your project is uploaded to the cloud, and you start your wind field simulations, the progress is tracked for each sector. Each sector has a progress bar showing 0 –100%, and completed when finished.

Q: Is the simulation engine used in WindSim Accelerator the same as in WindSim desktop?
A: The simulation engine in WindSim Accelerator will be continuously updated. Accelerator utilizes the Unix version of Phoenics, while WindSim desktop uses the Windows version. Please see Release Notes for more details.

Q: Can I still run the Wind Fields module locally?
A: Yes, you can still run local CFD simulations as long as you have a valid WindSim license.

Q: What is the maximum number of cells in WindSim Accelerator?
A: The limit is set to 56 million cells, but we can open for larger models on request.

DATA SECURITY

Q: How do you protect our data and prevent it from being accessible by anyone outside our organization?
A: We have implemented authentication and authorization to ensure that the user can only access appropriate services, views and data. WindSim Accelerator uses a basic authentication method where the user provides a username and password to log in. Furthermore, we manage authorization through roles and claims and logging, so that the users, application and data are isolated from each other to ensure security. All security measures are also described in the WindSim Accelerator security document which is available on request.

SUPPORT

Q: What happens if the system is down or not responding – do I receive error messages?
A: We monitor the system through health checks and heartbeat to ensure continuous up-time for our users. WindSim Accelerator uses multiple servers in multiple regions to secure up-time and also scale the system automatically according to the load. There are different logging and monitoring systems in place and there are also configured alerts against certain thresholds in order to take timely actions.

Q: What can I do in case a project run failed in the cloud?
A: First, check if you can resolve the issue based on the corresponding error message that appears in the Logs window and make sure that you have followed the step as described in the manual. If this is not resolving the issue contact our support team at support@windsim.com.

Q: One (or more) of my sector jobs failed in WindSim Accelerator. How can I run only this/these sector(s) again?
A: If you want to run only one or some sectors again, you can re-run single sectors directly from the cloud GUI. Set the sector angles manually and specify the sector angles that failed and re-run.

Q: When I double-click on the project file (.ws) after downloading it from WindSim Accelerator, I get the following popup error message:

A: Your default WindSim version is not set to WindSim 11 or 12. WindSim Accelerator only support project files generated in WindSim 11 or 12, and the project has to be opened in WindSim 11 or 12 after running the wind fields simulations in WindSim Accelerator.
Workaround: Open WindSim 11 or 12 and select File->Open to open the project file, or change your default settings to automatically open .ws files in Windsim 11 or 12.

Q: I don't see any Wind Fields results in WindSim 11 or 12 after opening a project which is downloaded from WindSim Accelerator.
A: The Results from the Wind Fields (Field values, Spot values, Residual values and Residual values log) are not part of the project download. The results can be generated by running the RunReports.bat script which is located in the download folder.

Q: I don't see any Field value plot in WindSim 11 or 12 after opening a project which is downloaded from WindSim Accelerator.
A: The Field value plots are currently only available in the WindSim Accelerator platform.

COMMERCIAL

Q: Why is it called the WindSim Accelerator platform?
A: The WindSim Accelerator platform is a solution to overcome the problem of computationally highly demanding CFD simulations in the Wind Fields module. While all other WindSim modules are managed via the desktop version (WindSim 11 or 12), the wind fields simulations run in the cloud. This advantageous coupling of desktop and cloud computation is housed inside WindSim Accelerator.

Q: What will it cost on an ongoing basis, compared to perpetual and annual licenses?
A: The cost will be relative to your simulation quantity as the WindSim Accelerator platform is a subscription-based solution. There are different subscription plans for different users; each subscription plan enables credits to be spent on cloud capacity for wind field simulations.

Q: Will I be charged for a job which fails during simulation?
A: A job will be charged only when results are ready for Download, so failing jobs will not be charged.

Q: Will I be charged for a job if I cancel the job or sector job?
A: If a job is cancelled it will not be charged. If a specific sector job is cancelled, this sector will not be charged.

Q: Will I be charged for a job if I stop the job or sector job?
A: If you select to stop a job or sector job, results will be generated for the simulation, and the job will be charged. The results are available through the Download project link.

Q: How do I know what a particular simulation will cost?
A: The total cost of a particular simulation will depend on the number of cells and the complexity of the terrain. High number of cells means a larger model, while a complex terrain might need more iterations to meet the set convergence criteria. Each completed job will be deducted from your available credits.

Q: Does the simulation stop if we run out of credits? How do we know if we have enough credits for a job?
A: If you don't have enough credits for a planned simulation the "Run Wind Fields"- button is disabled. Should the unlikely scenario happen that you run out of credits, we will not stop the simulation.

Q: What are the advantages of subscribing to a long-term plan?
A: If you sign up for a 1-year plan, you pay for 10 months up-front and get 2 months credit value for free. You are free to spend the credits whenever you want within the contract period.

Q: How do I decide which subscription plan is the right one for me?
A: By describing your typical project pattern we will find the plan that fit your needs.

Q: If we need more credits in a busy month or over a longer period how can this be solved?
A: Should you experience short periods of higher demand, we offer Booster Packages (Credit bundle). We are flexible and our subscribers will always be able to upgrade and downgrade their plan if needed.

A COMPLETE SOLUTION

WindSim Accelerator is part of the WindSim family of services to support you in your every need for wind analytics. As a subscriber of software, you will receive onboarding, regular functionality updates and ongoing support. Other services Services include consultancy and project support, as well as training. Contact us for more information at info@windsim.com.

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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.