Discover the new functions of LandSIM3D Version 3.0

Version 3 has improved rendering of scenes with the integration of natural light depending on the position of the sun, optimization of real-time display based on the physical capabilities of the workstation (memory and graphics card) and provides new features to better examine and exploit the 3D model when it is published. This new version is also prepared for future options making possible wider distribution of projects developed using LandSIM3D particularly through the internet in a collaborative and participatory orientation.

"This new version represents the third stage of our development strategy of the LandSim3D software. The main objective of version 3 is to enable our customers to share the benefits of their real-time 3D scenes and project models" explains Stéphane GOURGOUT VP Sales Bionatics. *"LandSIM3D positions itself more and more as an authorization tool for real-time 3D scenes which can be used, deployed ad shares in different ways through various media. The software architecture of version 3 will also facilitate integration with external partners that will enrich the usage of LandSIM3D".*

Find below some information about new functionalities in version 3.0 of LandSim3D.

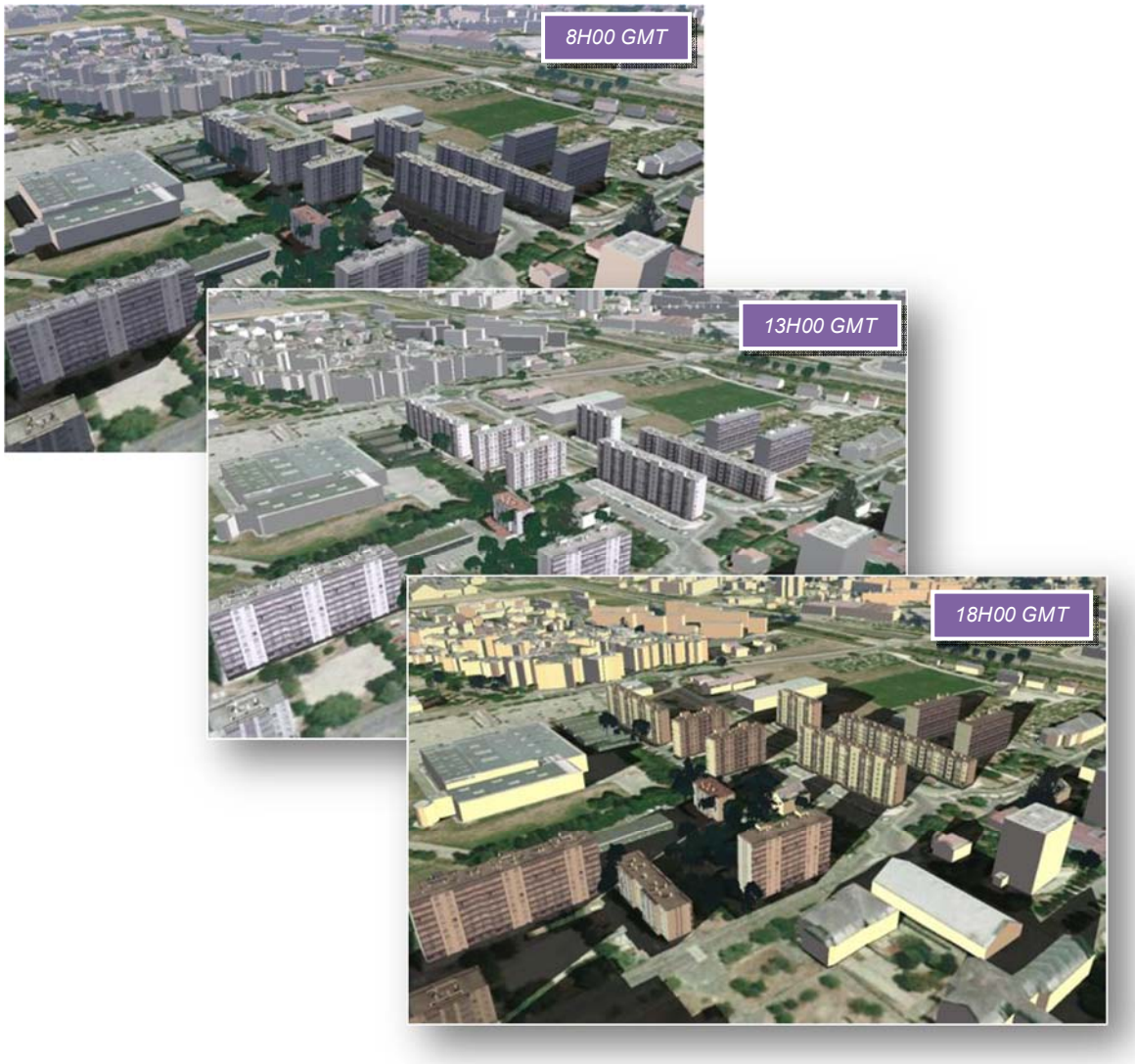
Simulation of the lighting of scenes based on time of day.

Version 3 LandSim3D allows the user to do realistic and accurate control of lighting of the 3D scene. The lighting can be adjusted in real-time depending on the season and time of day. This changes the position of the sun and the colors of ambient light that objects are reacting to in the scene. Changing of color temperature is visible in real time.

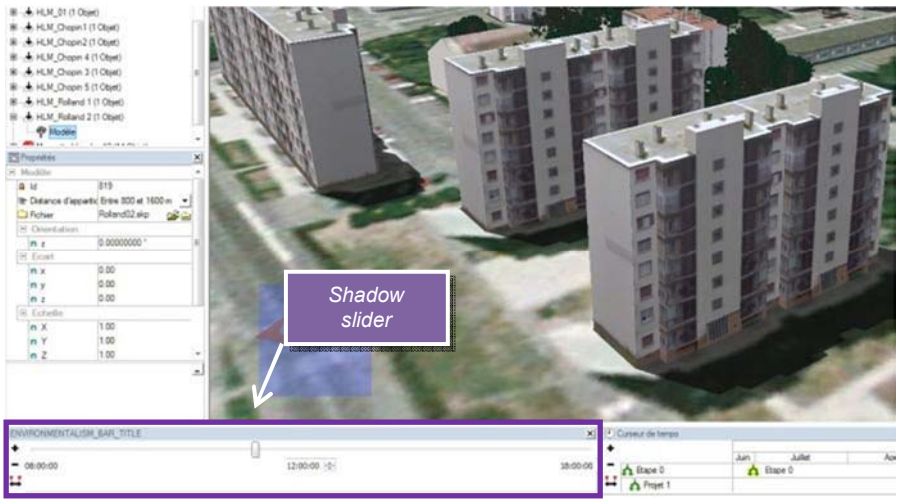
The example below shows a 3D scene displayed in LandSim3D June 30 12:00 then two more periods of the day, morning and evening at 7:00 and 20:00.

Animation of dynamic shadows during the day

The projection of shadows can be simulated with accuracy depending on the position in latitude and longitude of the observer and also the time of the year. The user can observe the movement of shadows on the ground from buildings and vegetation, using an interactive slider.



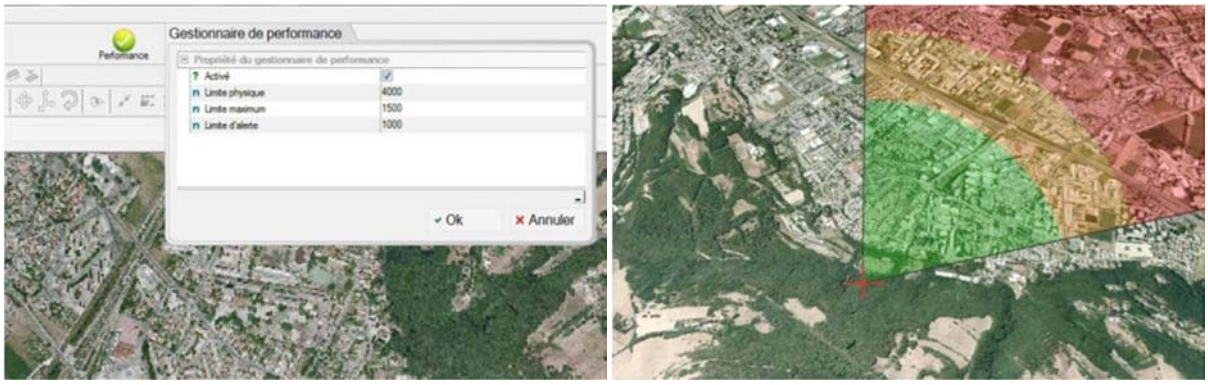
The user can also launch an animation for a given period and monitor in real time the evolution of shadows during the day depending on the path of the sun



Controlling parameters for memory allocation on the workstation.

The possibility to control memory allocation helps to prevent buffer overflows on the workstation when working on complex 3D projects. The user can implement a strategy of gradual reduction of memory usage based on the performance of the workstation or the amount of 3D content he wants to integrate. It allows to keep a detailed display close to the user by automatically reducing the levels of detail away from the observer and emphasizing the content closer to the camera. LandSim3D automatically adapts its display capabilities and maintains the fluidity of navigation or interaction with the scene. This tool eliminates crashes in the application, happened sometimes when working with content-rich 3D models, linked to memory overflows in the workstation.

In this illustration, the physical limit of the workstation is 4 GB The operator can then set a maximum limit of capacity utilization memories of his machine (red zone) and also set an alert threshold (orange area). LandSim3D automatically adjust the richness of the 3D display to stay within those limits to ensure smooth navigation.

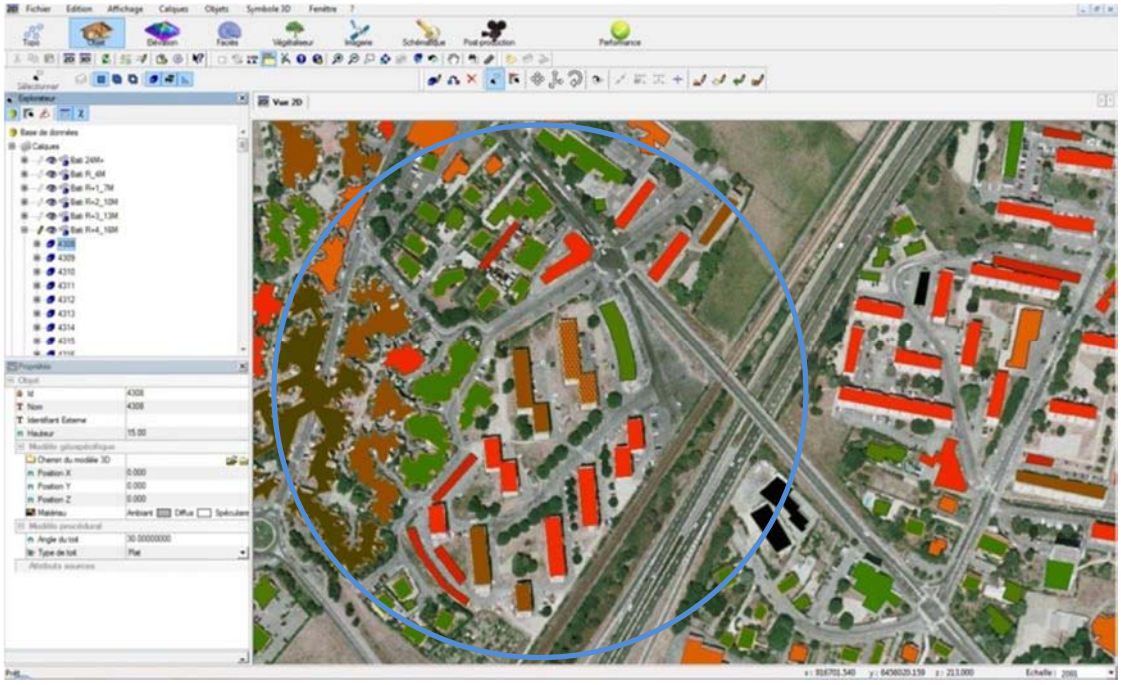


Import and display of 2D schematics following the natural deformation of the 3D terrain.

LandSim3D Version 3 improves management and display of maps and 2D vector surfaces in the digital 3D terrain model. It is now possible to import multiple zones linked to a theme. These imported zones deform automatically in real time following the modification of the terrain and avoiding visual artifacts.

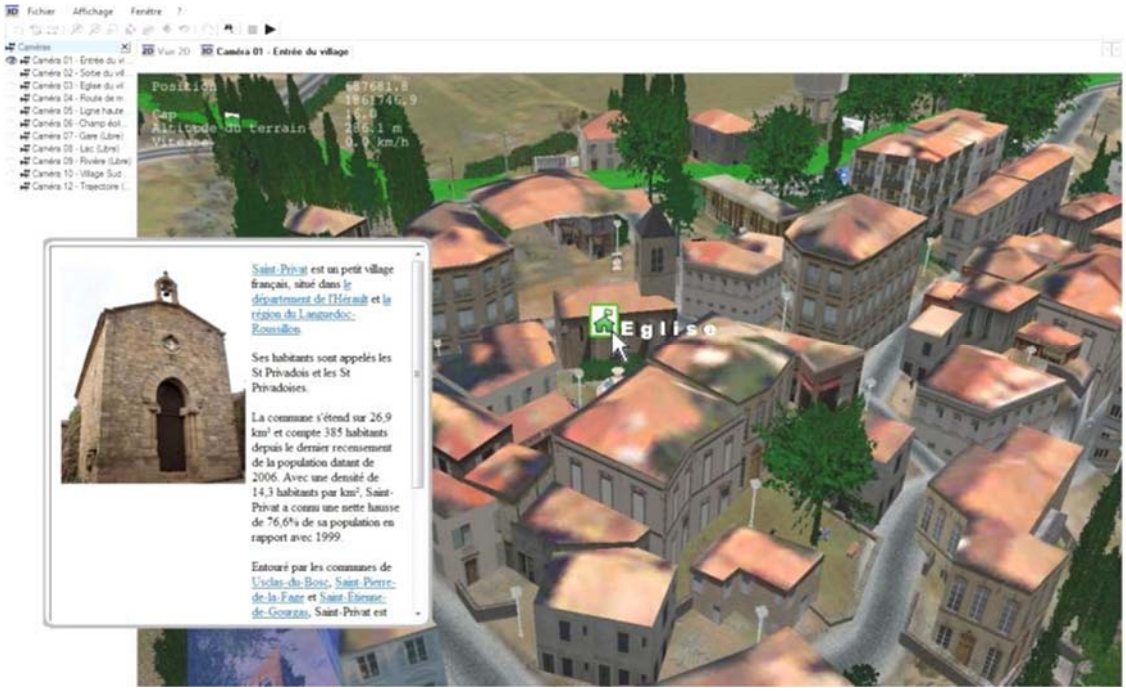
Only updating modified vectors giving faster update of the 3D view.

LandSim3D now offers the option to update only vectors modified bringing them into line with the rest of geospatial data (terrain, orthographic images...) this accelerates the speed of production. The global update of the data base and 3D data can then be performed according to the wishes of the user, for example when leaving the project or the application.



Possibility to query objects in the 3D view of the model

It is now possible to query elements, in the LandSim3D editor and the viewer, from the 3D view of the model to display contextual interactive content in the form of an information card, e.g. when consulting the model. In the example below, the user can click on an icon or label linked to the object to bring up the corresponding information card.

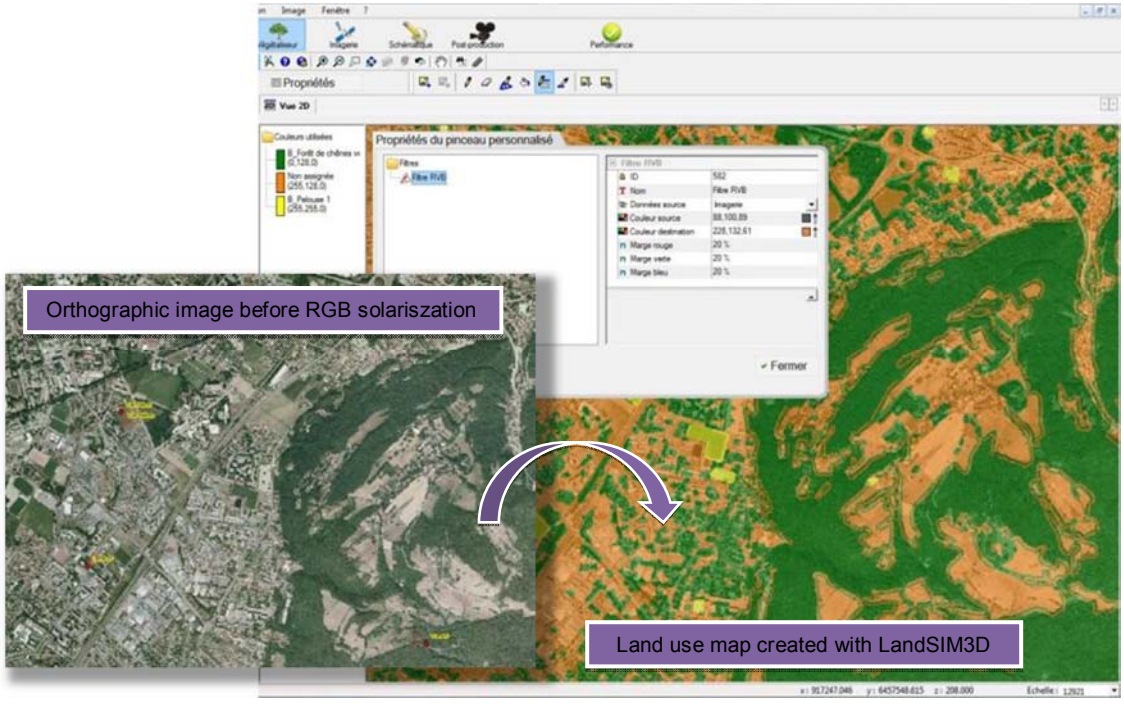


Assigning hyper scripts to 3D objects in the model

It is now possible to create hyper scripts related to external references such as video playback, opening of web pages, images, documents or reports ... etc.. These links can then be activated from the 3D view by simply clicking on the symbol positioned within the model.

Editor of raster data to create land use maps

The RGB filter lets you select and change, by working range of color, the colors of a source image into another color. You can generate a thematic map representing vegetable or mineral soil occupation from an orthographic image automatically by filtering the original colors and replacing them with new ones. You can add multiple RGB filters acting one after another and thereby change or reduce the number of colors in a map. Filters are applied dynamically when you paint the on the map with the custom brush and transform the source colors to the filtered color.



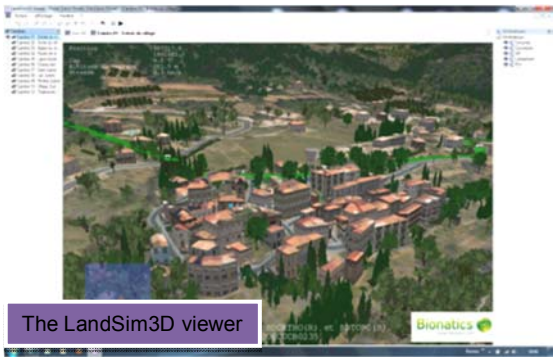
New functions to publish 3D models on internet

LandWeb is a revolutionary new offer proposed by Bionatics to enable its LandSim3D customers to publish and share their 3D models and/or geospatial content on the Internet with professionals and the public by combining the benefits of the procedural technology in LandSim3D the multitude of services offered to day by Internet.

A 3D model produced and published with LandSim3D LandWeb ® portal will be available in two distinct viewing modes:

- **A LandSIM3D ® Viewer** to view the 3D model stored remotely on a Bionatics Web server through the Internet. The receiver workstation must have technical and graphical performances compatible with the LandSim3D ® application and high speed internet connection. All the features of version 3.0 of LandSim3D Viewer is available through the internet with the high-resolution 3D display quality of LandSim3D.

- • **A Web Viewer** to display the 3D model through 3D globes like Google Earth, Bing, IGN or ESRI. The selection of elements to be published on the 3D globes, taking into account their limitations, is done from LandSim3D.



The LandSim3D viewer


The Web viewer in Google Earth

The benefits of the LandWeb solution are numerous, allowing:

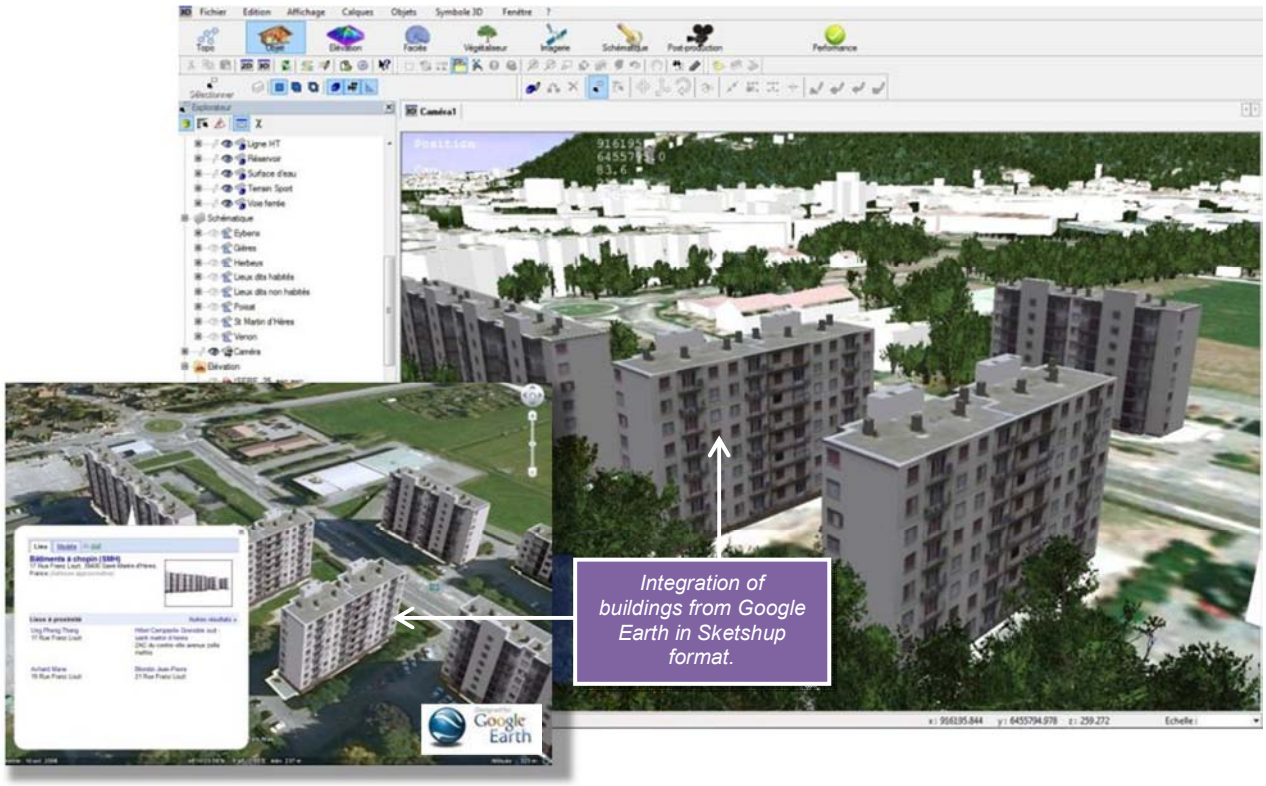
- • to share 3D projects with customers and partners at a distance,
- • to work together on issues of a project through a common platform,
- • to distribute geo-spatial data to customers or partners,
- • to share online models, images, docs and videos of a project ...

➢ LandWeb is an optional additional subscription to version 3.0 of LandSim3D. Contact Bionatics for more information: +33 1 56 02 04 20.

Improved import of 3D Sketchup models (.skp),

La version 3.0 de LandSim3D améliore la qualité d'importation des objets 3D modélisés avec Google® Sketshup® au format « .skp ». Elle permet notamment l'importation d'objets 3D issus de Google Earth aux formats Sketshup avec leurs textures aux formats skp exportés depuis les versions 4, 5 et 6 de Google Sketshup.

Version 3.0 of LandSim3D improves the quality of import of 3D objects modeled with Google ® Sketshup ® format ". skp. It allows import of 3D objects from Google Earth formats Sketshup with textures skp exported from versions 4, 5 and 6 of Google Sketshup.



For more information about LandSIM3D, visit www.landsim3d.com or contact Bionatics by phone +33 1 56 02 04 20 or by email: infolandsim3d@bionatics.com

About Bionatics

Bionatics is a software editor specialized in developing solutions for rapid generation and 3D visualization of large urban or rural areas and the simulating of their evolution over time. Its products address primarily markets as urban management, regional planning, landscape conservation and military training. Bionatics products offer innovative solutions to the needs of professionals in landscape planning, MOD and defense industries. Bionatics markets its products in over 50 countries.

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