Double Helix Optics

Home and Product Pages

HOME PAGE

Banners – 6 to use now or in the future

<Banner 1 – Still appears on the 1st banner live site: Double Helix Optics >

Explore the Depths

Gain unparalleled depth and the highest precision with Double Helix Optics 3D imaging

How it works >

Watch video >

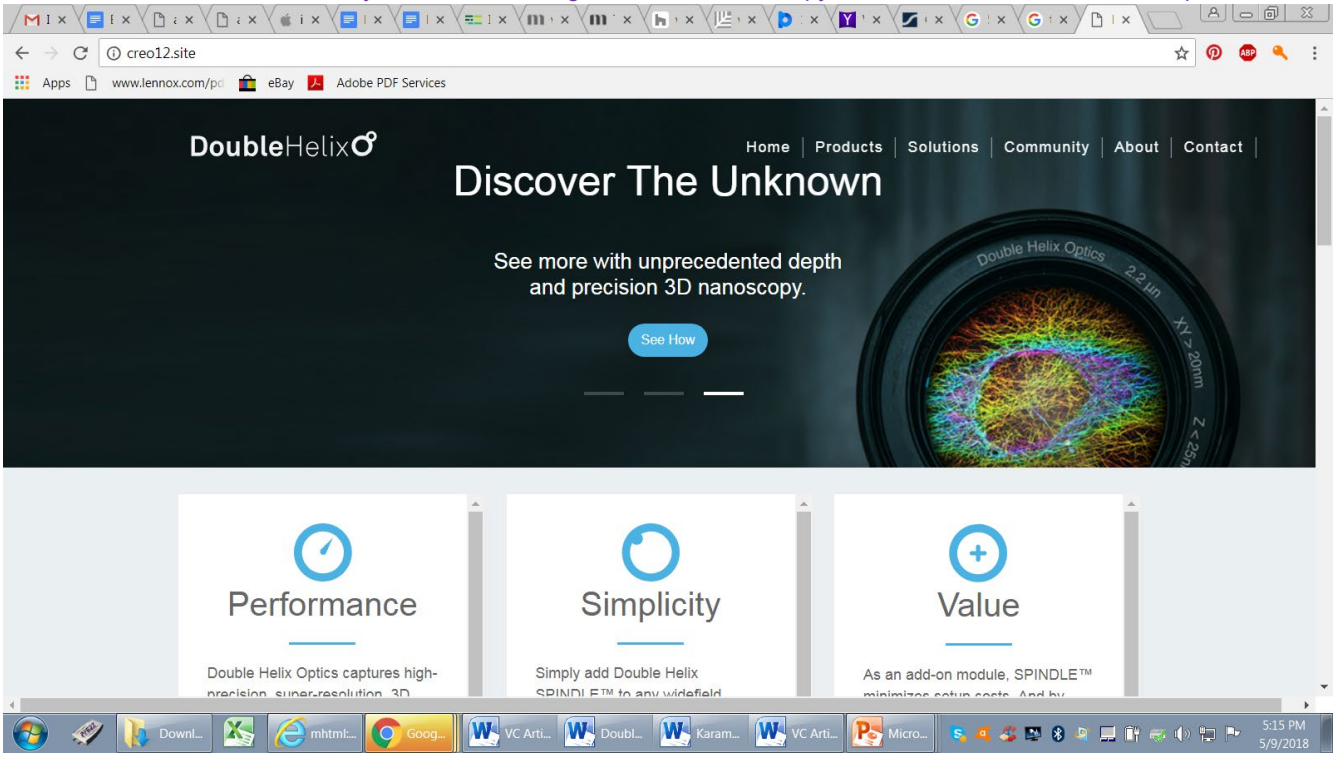
<Banner 2>

Discover the Unknown

Capture more depth and precision in 3D.
See what you've been missing.

What's possible >

<I've added screenshots post-production for my portfolio. The subheader of this banner changed, merging ideas I wrote below. I still like, "See what you've been missing." Until now, nanoscopy has been limited to 150 nm of depth.>



<Banner 3 - Life Sciences a>

See Unprecedented Detail

Double Helix Light Engineering™ delivers
the greatest depth and precision in 3D nanoscopy
Discover a breakthrough >

<Banner 4 - Life Sciences b>

Capture Images Never Seen Before

Double Helix Light Engineering™
delivers unrivaled depth and precision—so you get more data
Illuminate new findings >

<Banner 5 - Industrial >

Image a Larger Volume in a Single Shot

View and measure 3D features more quickly
by minimizing the need for axial stitching
<or>
Capture more data
without axial stitching
Speed the process >

<Banner 6 - Pharma>

Accelerate Discovery

See how compounds track and bind with targets
to understand how they interact.
Get a clear picture >

End Banners

HOME – Body Copy – High-level Benefits

Performance

Double Helix Light Engineering captures 3D nanoscale images with the greatest depth and precision—far superior to other techniques. You can collect significantly more data in a single shot, without axial stitching.

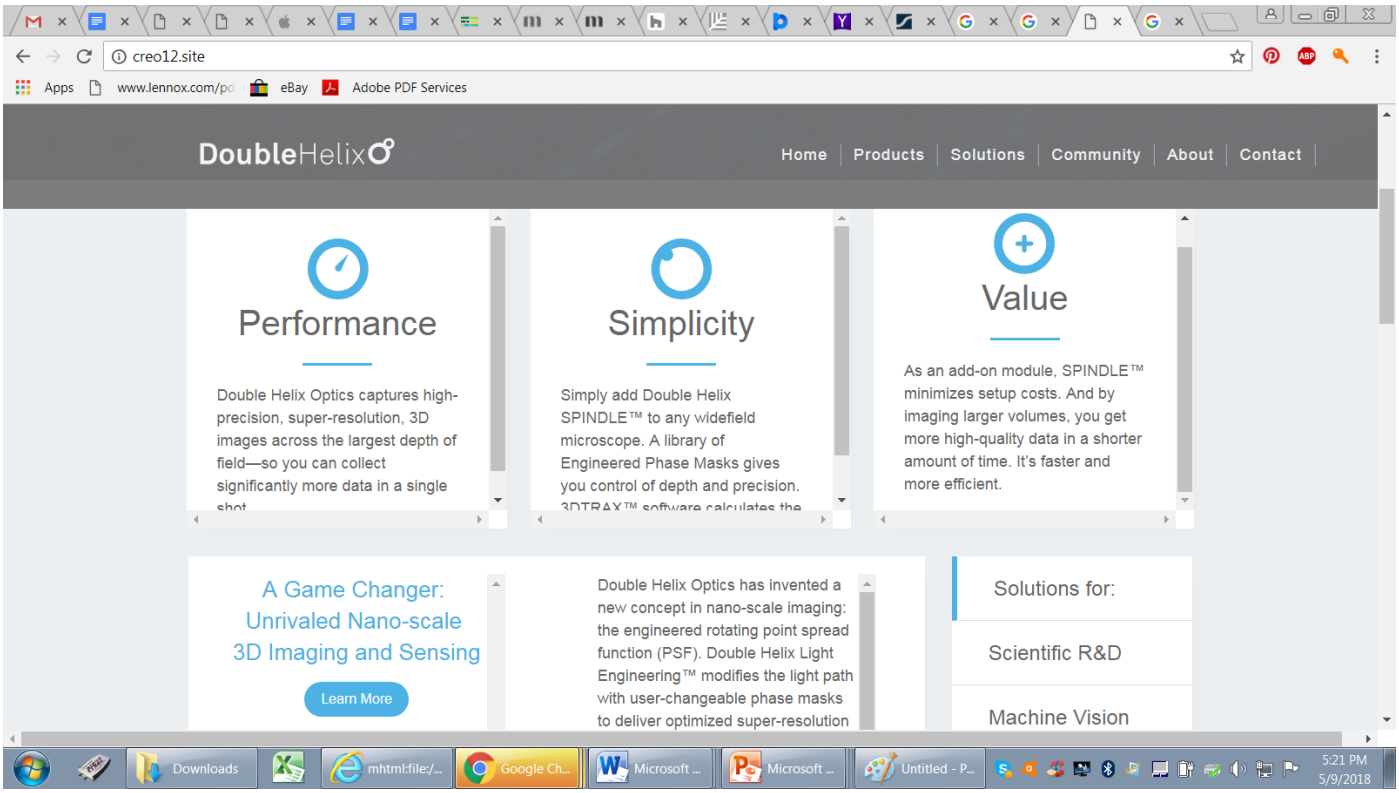
Simplicity

Simply add Double Helix SPINDLE™ to any widefield microscope. A library of Engineered Phase Masks gives you control of depth and precision.

3DTRAX™ software is an easy-to-use Fiji/ImageJ plugin that simplifies 3D localization analysis by automating 3D calibration, drift correction, super-resolution image reconstruction, and particle tracking.

Value

As an add-on module, SPINDLE minimizes setup costs. By imaging larger volumes, you get more high-quality data in a shorter amount of time. It's faster and more efficient.



Product Overview

A Game Changer:
Unrivaled Nanoscale
3D Imaging and Sensing

<The paragraph below changed recently. DHO added a new product, and there's a longer block of text on the site.>
Double Helix Optics has invented a new concept in nano-scale imaging: the engineered rotating point spread function (PSF). Double Helix Light Engineering™ modifies the light

path with user-changeable phase masks to deliver optimized super-resolution 3D imaging and particle tracking.

The results? Unparalleled depth and precision—more than 3x that of other solutions.

See what you've been missing.

<Sidebar>

Solutions for:

Life Science

Drug Discovery

Material Science

Industrial Inspection

<3 Sample Images - add depth color scale>

2D Light Microscopy
Traditional light microscopy is limited by the diffraction of light to ~200 nm in the lateral dimension (x-y) and ~500 nm in the axial dimension (z).

2D Nanoscopy
Super-resolution imaging breaks the diffraction barrier, enabling you to see structures as small as 10-20 nm laterally. But this 2D image shows only 150 nanometers in the axial dimension, losing depth information near and far.

3D Double Helix Imaging
Double Helix Light Engineering™ goes well beyond the diffraction limit, generating images at very high precision (<30 nm) in all three dimensions (x, y, z). This image shows a depth of 3 microns, encoded in color.

<Insert Quote Here>

Home Page - Bottom Nav

PRODUCT PAGE

Product page banner is still live: Double Helix Optics

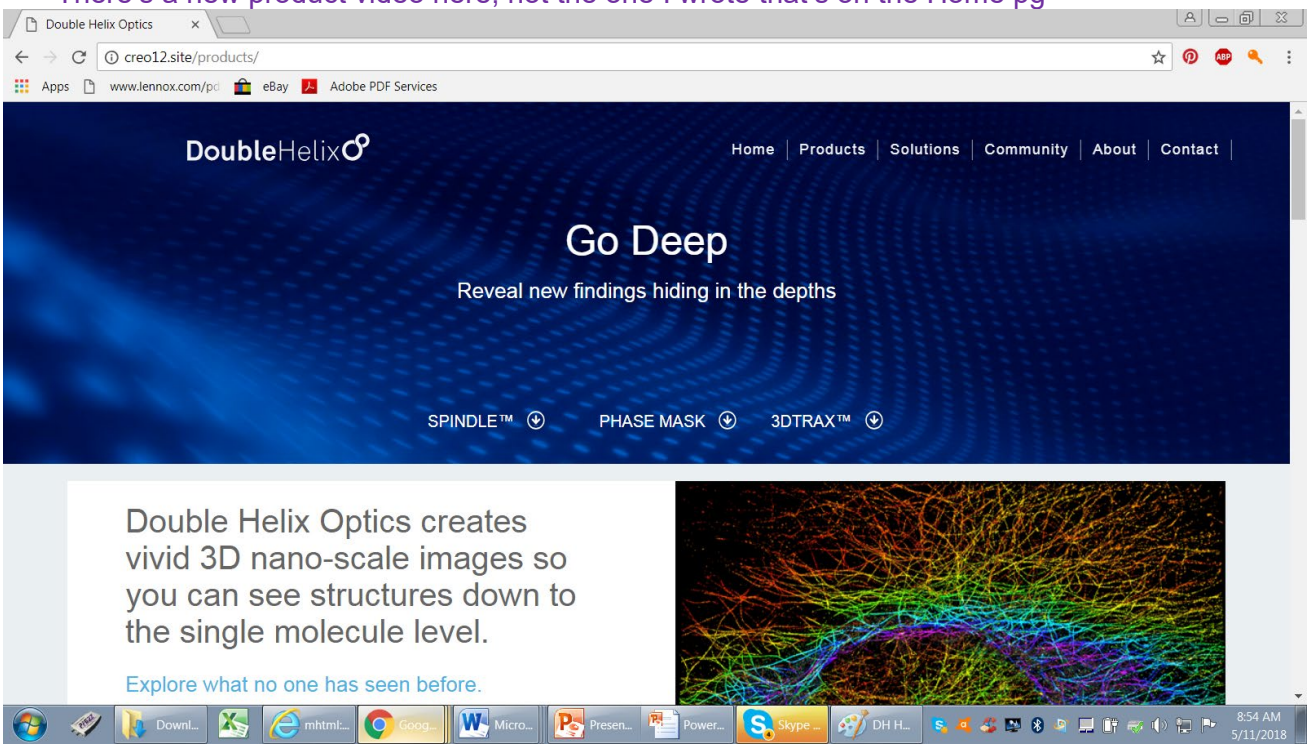
Product page web archive: Double Helix Optics (doesn't capture original layout, but copy is the same)

Go Deep

Reveal new findings hiding in the depths

See the potential >

<There's a new product video here; not the one I wrote that's on the Home pg>



Product Overview

Double Helix Optics creates vivid 3D nano-scale images, so you can see tiny structures—down to single molecules.

Explore what no one has seen before.

<This body copy on the product page has been edited on the live site. When DHO launched their new product, the CEO wrote copy to save money, as many startup clients do. She also added a Solutions page that I did not write.>

Patented Double Helix Light Engineering™ gives you the power of 3D imaging and particle tracking with the greatest depth and precision—unmatched in imaging today. The SPINDLE™ seamlessly integrates with your existing microscope, camera or other optical instruments.

Choose from a library of Engineered Phase Masks optimized to the depth, emission wavelength, and signal-to-noise ratio that best meets your needs. 3DTRAX™ software

pinpoints the location of single molecules or particles in the axial and lateral dimensions—for the most precise 3D imaging.

<Insert Product Photos >

<Most of this bulleted copy appears to be the same on the live site: Double Helix Optics.

SPINDLE™ add-on module

- Extends the capabilities of your microscope for nanoscale 3D imaging and sensing
- Attaches between any widefield microscope and scientific camera, using standard C-mounts
- Ensures pupil plane alignment to your microscope and objectives with corrective optics
- Features a bypass mode so you can revert to 2D imaging without having to dismantle
- Unlocks vast potential when combined with other techniques, including Light Sheet, SOFI, and FRET

Engineered Phase Masks

- Modify the point spread function (PSF) to capture 3D information, in much greater detail and depth
- Maximize control and flexibility with a library of phase masks, including Double Helix, single helix, Tetrapod, and multicolor designs
- Alter the PSF based on depth range, emission wavelength, SNR, and optics parameters—so you can achieve the ideal balance for your imaging needs
- Image larger volumes, minimizing or eliminating the time and effort needed for axial stitching
- Extend the depth of field—up to 10 µm—capturing longer particle tracks that would be lost with other 3D tracking solutions

3DTRAX Software

- Calculates the 3D position of particles by running proprietary algorithms to automate localization analysis
- Generates highly precise 3D data (<30 nm) with unprecedented depth and resolution for single molecule localization and tracking
- Automates drift correction and provides intuitive plots to ensure data quality
- Simplifies and streamlines the user experience as a Fiji/ImageJ plugin
- Allows you to save 3D data in Double Helix or Thunderstorm file formats and export files for further analysis

End Product Page