

EMERALD™ - FIXED

EMERALD™-FIXED planetarium projectors offer the most advanced and innovative technology.

Designed and built with emphasis on education as well as entertainment usages, with a plug-n-play approach.

Can operate as 2D, 3D and even 5D full dome video projections, with moving and vibrating chairs, wind and even special smells (depending on the selected model) at resolutions up to 8K.

***Projection Elevator/pier? - Not necessary!**

Immerse yourself, without any obstructions.

Ask our representative about Custom-optics, unique to Emerald™.



Planetarium
shows & Software
included



Wireless
remote
control



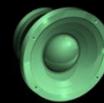
Super fast
Computer



Unique
Customizable
Fisheye lens



High
luminosity &
contrast



5.1 Surround
audio output



'Safe-Lock
design'



Three year
limited
warranty



Dome Installation Example



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	Feature	Emerald™ - FIXED	Competing Design
	Advanced Astronomy Simulation Software Included	✓	✗
	Gesture Friendly User Interface	✓	✗
	Plug-n-Play Design: Ready to play out of the box	✓	✗
	Cables/poles Free: No assembly required	✓	✗
	True 180° X 360° Projection	✓	✗
	HD Fisheye Optics: Pinpoint stars all the way to the edge	✓	✗
	MgF2 Optical Coating	✓	✗
	2-Stage active cooling system	✓	✗
	L.O.P.C Capability: LIVE Deep space broadcasting	✓	✗
	'Open' System: Use virtually ANY type of content	✓	✗

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Custom exempt - the Emerald line of products should be custom free in EU and US

EMERALD™-FIXED Projection Systems

The EMERALD™-FIXED planetarium projection system displays high-resolution imagery to fit the dome's geometry; presenting bright, colorful & sharp content. The result fills the dome with stunning images for a truly immersive experience.

These are powerful, affordable, complete planetarium systems which are designed for the needs of educators, school districts, science centers and universities. The Emerald™ systems are designed and built with emphasis on education as well as entertainment usages, with a plug-n-play approach, using state of the art technology.

OPTICS WERE DESIGNED SPECIFICALLY FOR PLANETARIUMS

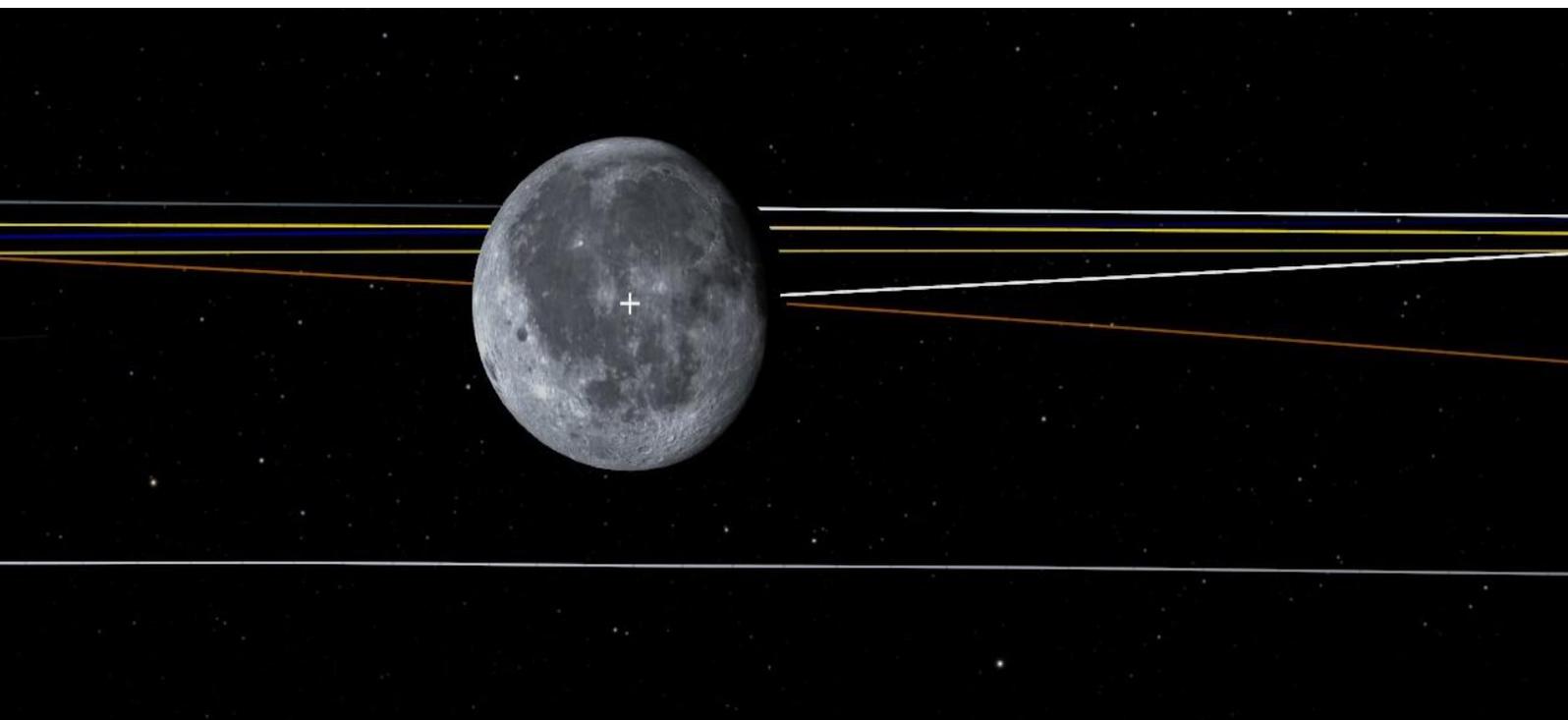
Optics are MgF2 (Magnesium Fluoride) coated and provide a 180° wide angle projection, unlike systems that are able to project only on segments of the dome.

EMERALD™-FIXED optics are customized for each planetarium, for optimized fulldome experience.

--PROJECTION ELEVATOR? NOT NECESSARY!--

Emerald™'s unique custom planetarium projection solutions, forgo the need for an elevator and other elevating constructions.

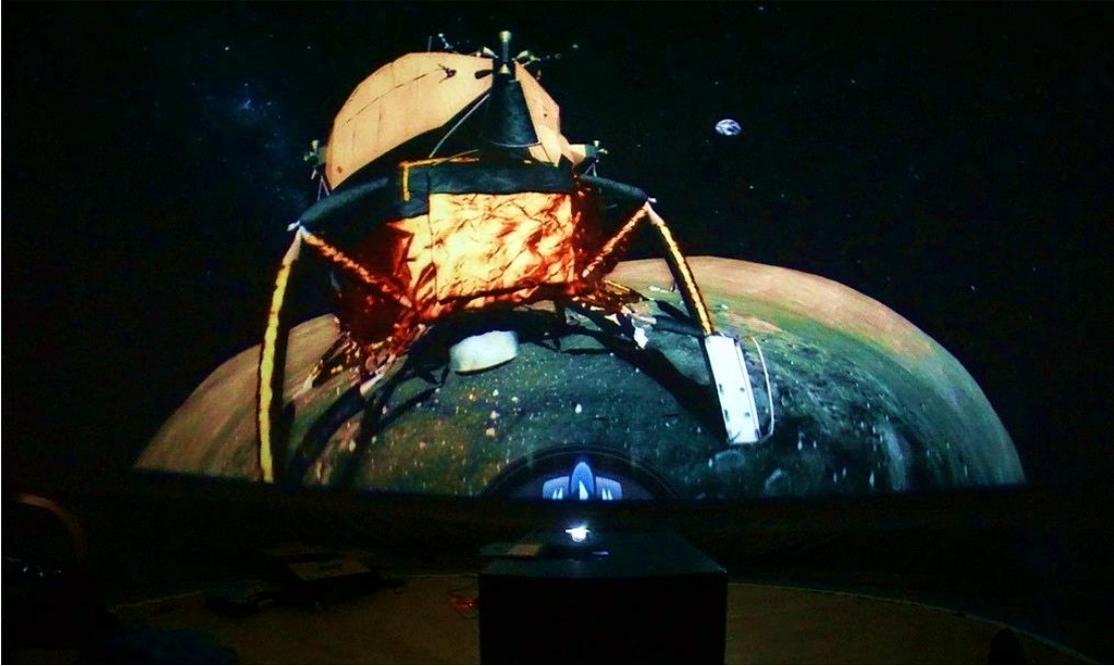
The projection unit can be located on the ground, for use with virtually any type of dome.



ENGINEERED FOR MANY YEARS OF FLAWLESS OPERATION

Emerald FIXED systems are made of military grade components including a powerful FAST integrated computer/servers.

Technical support is just a click away: an Emerald rep. Connects from afar to manage system settings.



EMERALD™-FIXED CONTROL SYSTEM

Production-Dome-Console: Has an extremely intuitive and gesture-friendly User Interface which enables to control the planetarium content from anywhere around the dome.



EMERALD™ PLANETARIUM OPTICS

Compare the two images of a star field below.
The first was taken with a competing optical design, the second with Emerald™ optics.

Superior edge performance not only creates rounder, more pleasing stars, but actually improves the resolution and audience experience. With Emerald™ MgF2 optical coatings, our optics gives you maximum light throughput across the widest visual spectrum.

A DIFFERENCE YOU CAN SEE

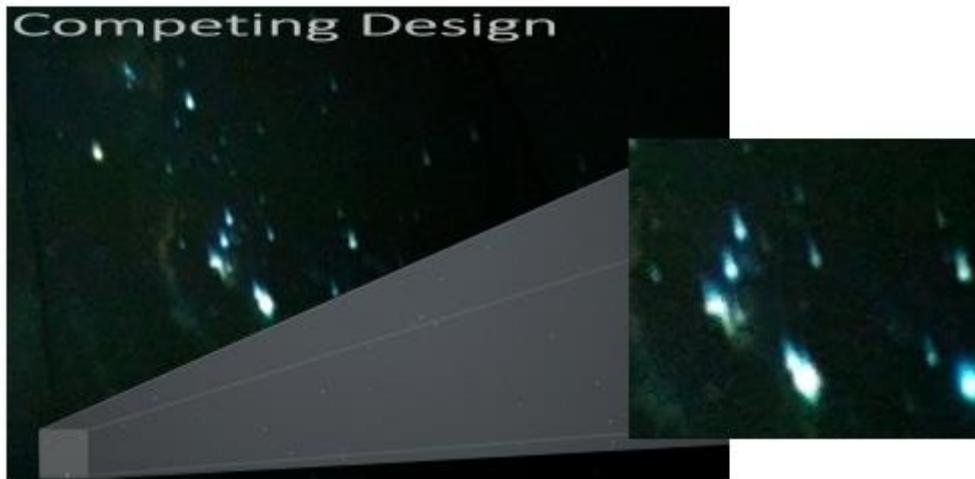


Fig. 1: The competing design, when focused on the axis, shows sharp stars in the center of the image, but dramatically out-of-focus stars (rings or lines) at the edges.

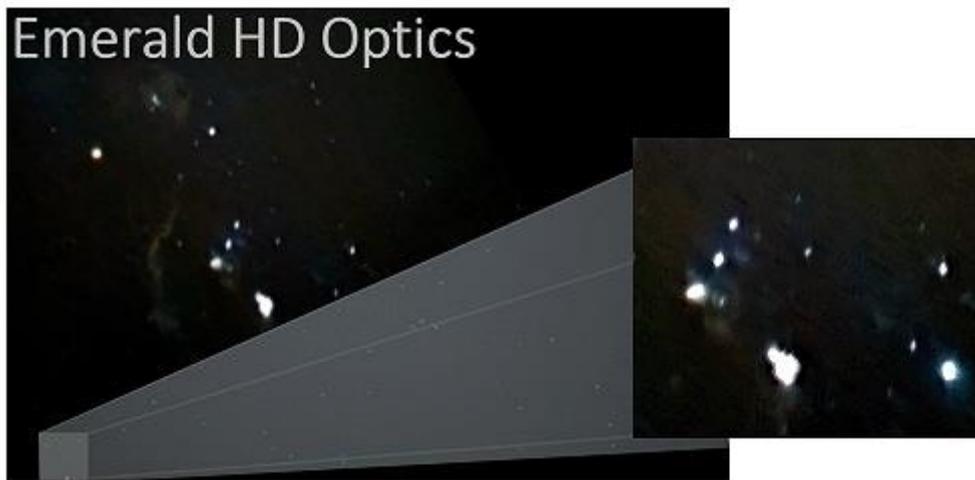


Fig. 2: Emerald™ optics produces a consistent, sharp focus across the entire FOV

When focused on-axis, both images appear to be sharp in the center. But in the first image, as you examine the stars closer and closer to the edge, the stars become larger and less focused. Finally, at the very corners, the stars are so defocused that they appear smeared instead of pinpoints.

Now look at the second image. As you move from the center outward, the stars retain their focus from edge to edge, appearing as crisp, solid points of light.

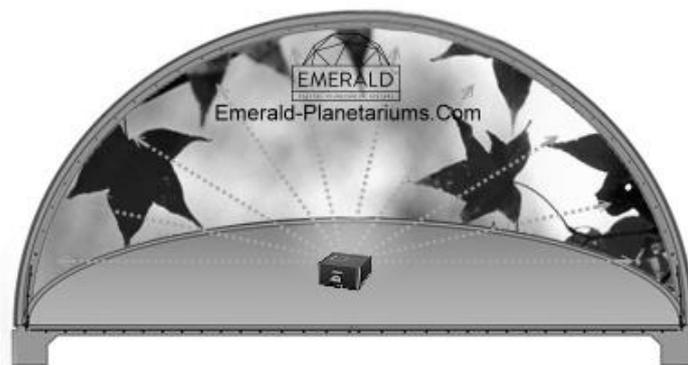
IMPROVED PERFORMANCE FOR BRIGHTER, MORE DETAILED IMAGES

Superior edge performance not only creates rounder, more pleasing stars, but actually improves the resolution and limiting magnitude compared to projection units of equal initial properties/specs.

Emerald™'s high definition optics let you resolve smaller spot sizes all the way to the outer edge, revealing finer detail and greater contrast.

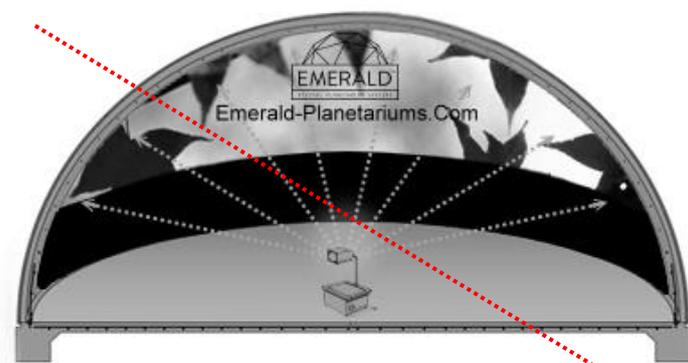
180°X360° ANGLE OF PROJECTION

Enjoy a True fulldome experience with the Emerald 180°X360° Angle of projection precise Fisheye lens.



Angle of projection = 180°

Fig. 3: Emerald™ optics with 180deg angle of projection



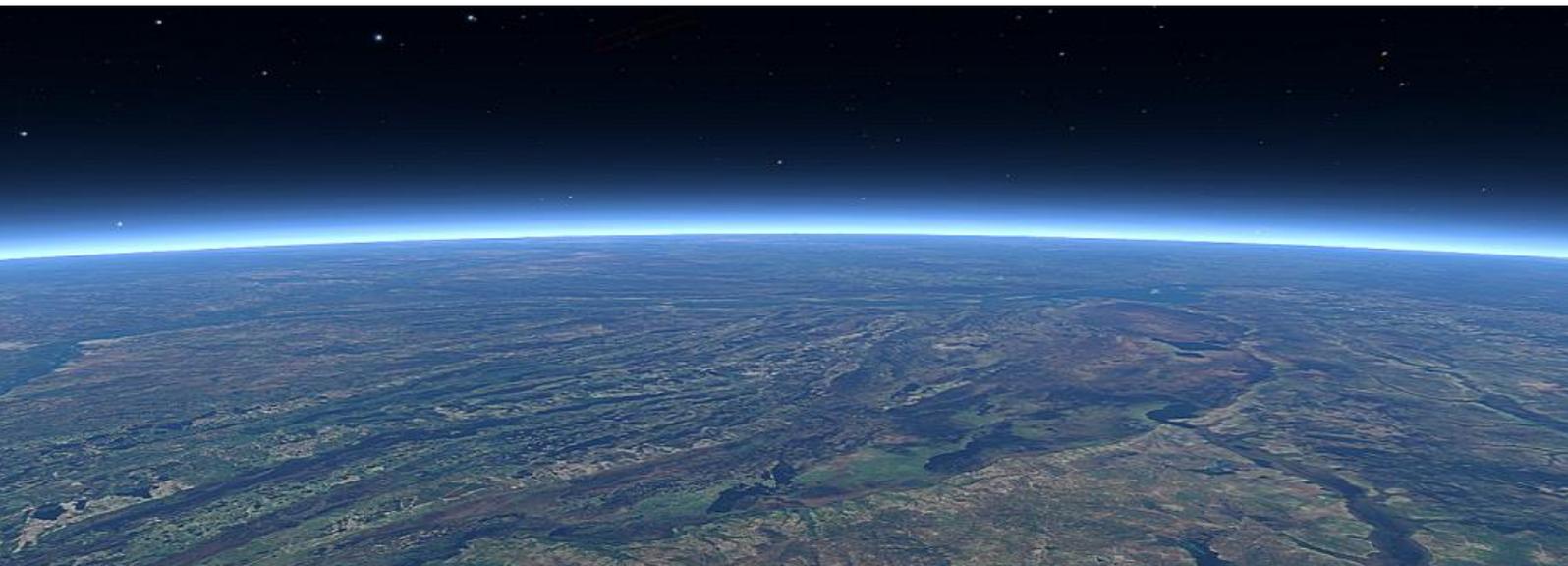
Angle of projection = ~165°

Fig. 4: The competing design, with less than 180deg angle of projection

EMERALD™-FIXED SOFTWARE

MULTIVERS²

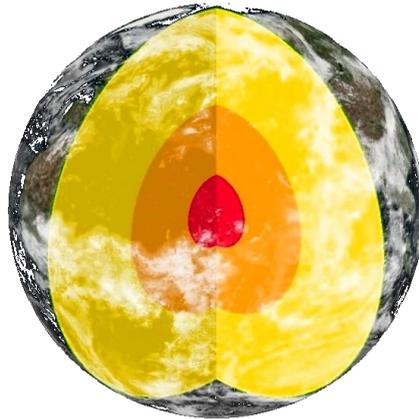
- Enables to travel within our Solar System AND entire known universe
- Including the ability to fly outside our solar system
- Use the built-in shows - or create your own planetarium shows while embedding images, animations and your custom narration
- Includes High-Resolution data sets of the Earth, solar system and Deep-Space Objects for incredible detail
- Built in Scriptable capabilities
- Includes powerful 3D rendering engine



The Emerald™ projection planetarium system includes a full library of shows (ready for play scripts) from many fields of interest; such as Astronomy, Geology, Ecology and more. The Emerald™ fulldome system also includes advanced Planetarium simulation software.

Employs powerful, everyday tools to analyze and visualize complex data-sets, while containing the most up-to-date astronomical data.

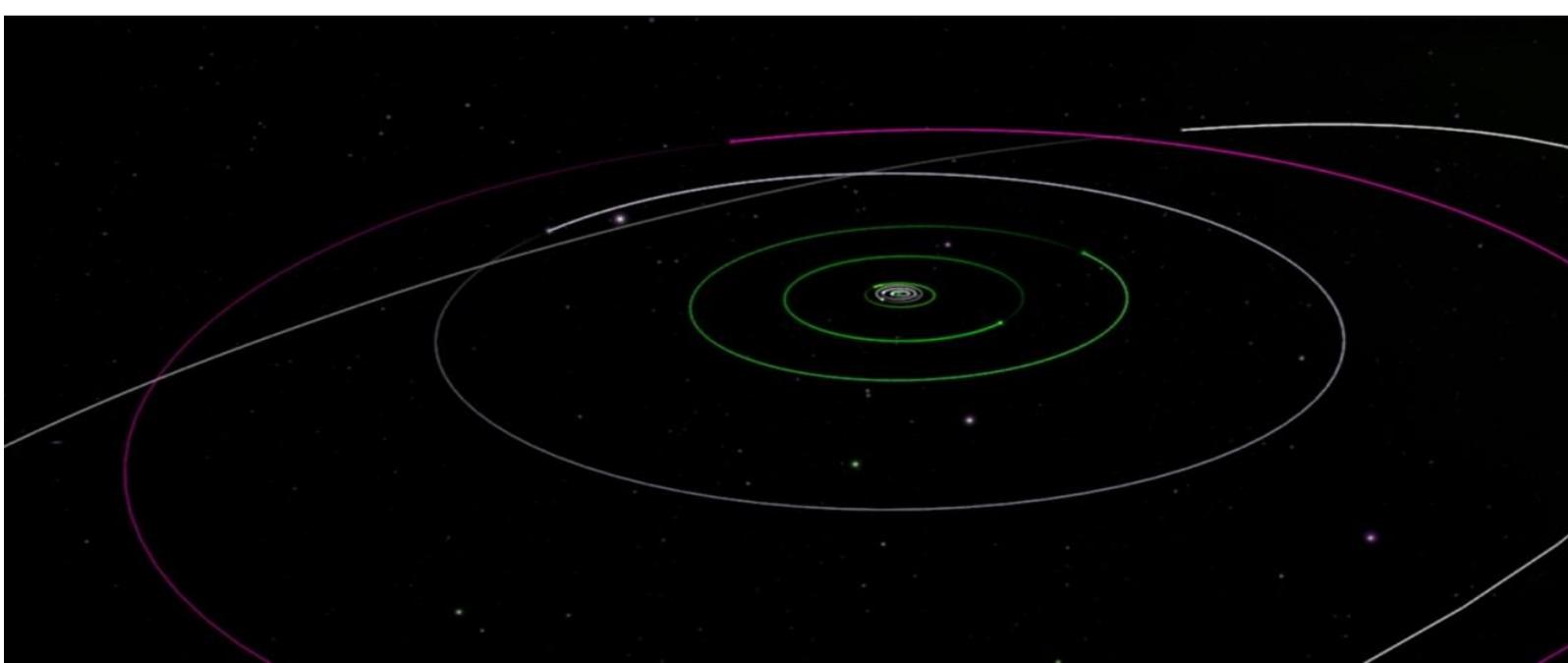
You can use the built-in fulldome shows - or create your own planetarium shows. While embedding images, animations and your custom narration. You can also download and share shows with the global planetarian community.



The planetarium software and planetarium platform, allow you to see the sky in a way you have never seen it before through individual exploration; multi-wavelength views; stars and planets within context to each other; the ability to zoom in and out; and the capability to create, search and view guided tours of the universe.

You can view the entire solar system in 3D with light and shadows created from the sun, and can explore the Earth and Mars in incredible detail. You also can watch planets orbit around the sun, and moons orbit around planets.

The visual experience engine delivers seamless panning and zooming around the night sky, with sky image that provides an unmatched panorama of the heavens. The app delivers seamless integration of scientifically relevant information, including multi-wavelength, multiple-telescope distributed image and data sets, and one-click contextual access to distributed Web information and data sources.



LIVE OBSERVATORY PLANETARIUM CONNECTION *(optional)*

"For the first time - the visitors can make new astronomical discoveries inside the planetarium!"

Our complete remote robotic telescope systems can send live deep space images directly into the planetarium dome!

The unique live-telescope system, developed by the Bareket observatory and Emerald™ planetariums serves institutions such as JPL, Berkeley, and NASA.

Today's computer technology, modern optics, and electronics offer an opportunity to provide you with access to research quality telescopes in both the northern and southern hemispheres.

The unique Emerald L.O.P.C offers live planetarium sessions with real space images, taken live during the planetarium session.

The planetarian can track an asteroid, take a snap shot of a nebula and even create an extra solar planet light curve.



Image: M51 the Whirlpool galaxy, taken using the Emerald's robotic telescope system

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L e a r n , E x p l o r e , E x c i t e

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