

TO: Research and Markets

Research and Markets: Global Semi-Transparent Holographic Display Market by Product, by Application, & by Region - Trends & Forecast (2014 - 2019)

I think when you prepare such an expensive Market Research Report you should be very accurate and not mix holographic and non-holographic applications. I understand that journalists may not have that knowledge, but you should be educated in the field when you prepare a report.

A lot of what is described as "holograms" or "holographic" today has nothing to do with holography.

For example in your list of companies only

Holoxica Ltd. and **Zebra Imaging** are working on **holographic** applications

Musion DAS Hologram Ltd and **Provision Holding, Inc.** have no holographic applications. They are working on a modern version of the **old Pepper's Ghost illusion** using **projected 2D computer images**.

Pepper's ghost is an [illusion](#) technique used in [theatre](#), [haunted houses](#), [dark rides](#), and magic tricks. It is named after [John Henry Pepper](#), a scientist who popularized the effect in a famed demonstration in 1862. It has a long history, dating into the 16th century, and remains widely performed today. **Notable recent examples of the illusion were used to project a recording of Tupac Shakur onstage with Dr. Dre and Snoop Dogg at the 2012 Coachella Music and Arts Festival and Michael Jackson at the 2014 Billboard Music Awards.**

Images are projected on a large semi-transparent screen at a 45-degree angle. Real people and the projected images can mix, but the images are **only 2D** images which are projected on the flat screen and not 3D and are, of course, not holograms.

Holography is the science and practice of making **holograms**. Normally, a hologram is a photographic recording of a [light field](#), rather than of an image formed by a [lens](#), and it is used to display a fully [three-dimensional](#) image of the holographed subject, which is seen without the aid of [special glasses or other intermediate optics](#). The hologram itself is not an image and it is usually unintelligible when viewed by [diffuse ambient light](#). It is an encoding of the light field as an [interference](#) pattern of seemingly random variations in the opacity, density, or surface profile of the photographic medium. When suitably lit, the interference pattern [diffracts](#) the light into a reproduction of the original light field and the objects that were in it appear to still be there,

exhibiting visual [depth cues](#) such as [parallax](#) and [perspective](#) that change realistically with any change in the relative position of the observer.

In its pure form, holography requires the use of [laser](#) light for illuminating the subject and for viewing the finished hologram. In a side-by-side comparison under optimal conditions, a holographic image is visually indistinguishable from the actual subject, if the hologram and the subject are lit just as they were at the time of recording. A microscopic level of detail throughout the recorded volume of space can be reproduced. In common practice, however, major image quality compromises are made to eliminate the need for laser illumination when viewing the hologram, and sometimes, to the extent possible, also when making it. Holographic portraiture often resorts to a non-holographic intermediate imaging procedure, to avoid the hazardous high-powered [pulsed lasers](#) otherwise needed to optically "freeze" living subjects as perfectly as the extremely motion-intolerant holographic recording process requires. Holograms can now also be entirely computer-generated and show objects or scenes that never existed.

Holography should not be confused with [lenticular](#) and other earlier [autostereoscopic](#) 3D display technologies, which can produce superficially similar results but are based on conventional lens imaging. Stage illusions such as [Pepper's Ghost](#) and other unusual, baffling, or seemingly magical images are also often carelessly called holograms.

A hologram requires that an interference pattern is recorded in a high resolution recording material. The stored information can be retrieved by illuminating the recording with laser light or, for some holograms, with ordinary white light.

Your report needs to be corrected before you offer it on the market. You need to include what in the report describes holograms and holography and what is Pepper's Ghost applications.