Dome Content: Live Shows
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BIOGRAPHY
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ABSTRACT
Extending a classical planetarium setting into full stage scenery -and vice versa- provides a lot of extra opportunities presenting live shows.

INTRODUCTION
The newly to be build Science Dome in Heilbronn, Germany will exist of a revolving platform in which the audience will be rotated from a stage into full dome modus.

I. DILEMMA
Many unidirectional seated planetariums hold a small area for stage performances and often are limited in live performances due to space limitations. It is even a bigger problem with omnidirectional seated planetariums. Historical there was not much need for extra performances under a dome. An opto-mechanical projector provided all there is to a star show. Planetariums today have much more to offer due to evolving culture attitude and learning processes, progressing projection techniques and competition from entertainment venues.

There is a constant need to spread ones wings to please the flow of visitors and keep the integrity of your planetarium. This will reflect the use of its available real-estate inside each planetarium.

A dilemma pops up if planetariums want to deal with a multi-purpose environment for their theater without changing their visitors from room to room. What if a theater could provide a stage and a full dome in one go for instance?

To date a few efforts try to deal with this dilemma. Moving domes or half sized domes with mechanics that can lower or higher a dome over its audience in order to make way for a stage exist. Seats can be assigned beyond the periphery of the dome itself for stage performances.

Figure 1 – dome movement Mt Cook New Zealand
Another solution is to completely remove the seating within the planetarium to make room for any other kind of exploit. It is often used for catering and rental events but could be used for simple walk troughs, camping or artistic performances.

On the other hand more and more designated class-room planetariums are used within the facilities of high schools and universities. The planetarium has one specific teaching purpose and limits itself by default from wide-ranging activities.

II. THE EXPERIMENTA APPROACH

Experimenta’s Science Dome in Heilbronn-Germany is capable of rotating its whole audience into dome or stage modus whatever is preferred for its shows.

To change between dome- and stage viewing modes, the entire 150-seat audience platform can be rotated 180 degrees. The Science Dome is equipped with 8K dome projection, 3D audio, lighting and recording systems, digital planetarium image generators, an opto-mechanical star projector, a laser system, projection water screen, additional cinema projection screens, complete stage technology, can be linked to the rooftop observatory and is prepared for high voltage and chemical experiments.
The Science Dome will be operated continuously on a dense schedule, with content from all STEAM and related fields and formats ranging from full-dome movies, planetarium and live experimental shows to concerts, theater, talks, music and laser shows. Shows are developed for different age groups, covering all ages and targeted to also attract youths and young adults.

Finding the optimal way of using the combination of dome, stage and ample multimedia technology poses challenges, and offers opportunities to gain insights useful for the world-wide planetarium landscape as it develops towards digital, multi-purpose multimedia domes.

The prospects are obvious: a whole orchestra now can be part of the performance and larger theater spectacles can add to the dome experience. The rotation itself now becomes part of a show element.

![Figure 5 – artist impression of stage under the dome](image)

This approach does not make it easier for productions. The regular approach of pushing a full dome show button ends here. Production needs carefully thought over in use of its available space. Most of our regular shows will start with a live presence on stage to introduce a subject and turn the audience into a full dome presentation.

In a more complicated scenery, a stage live act can be combined with full dome modus and even return to a stage story. For that matter presenters are casted with theater and science skills which are a challenge on its own.

Even in a full-dome mode a smaller stage upfront of nearly 100m² is available for other interactive and live use. The stage performance can be continued into full-dome modus as well. It all needs to be planned and scripted accordingly since there are safety issues involved. Sensors fi. prevent visitors from entering the stage during High Voltage or laser shows.

But the real estate is there to comply with numerous of visitor’s educational and entertainment wishes.

It is up to the Science Dome team to achieve them.