Criteria for realization of projection events

The realisation of projects with large format projectors is bounded by certain physical conditions, technical equipment and other boundary conditions. To shorten, simplify and clarify the set-up time, those conditions must be clear before working on a project.

1) GENERAL INFORMATION

a) **Information about the show, event, building, etc.**
b) **Expectations (personal and client)**
c) **Test-projection?**

2) DATES

a) **Project starting and ending date**
b) **Hours of projection**
c) **Dates of set-up, rehearsal, break-down**

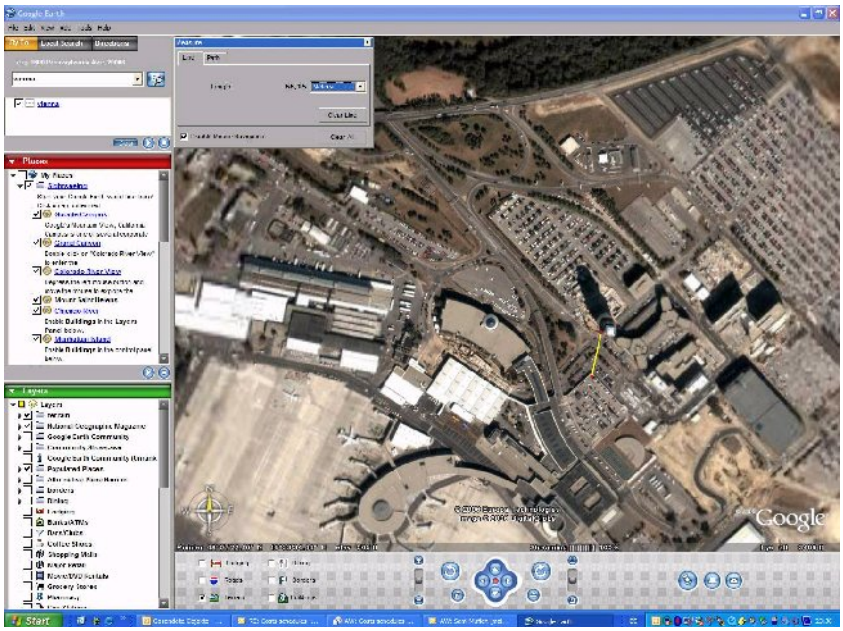
3) SITE

a) **Access to site**
b) **Projector positioning**

- **How many sides/surfaces should be projected?**
- **Projection distance**
  - The luminous efficiency is higher if the projection distance is short.
- **Projection angle**
  - Projection distortion is possible if the projection is bevelled to the projected area (meaning that the projector is off center). The luminosity diminishes in the farthest projection corner.
  - Projections can become blurry and unclear under certain circumstances, like (for e.g. when using) the wrong projection lens angle.
  - There should be no distracting object between projector and projecting area as such obstacles lead to undesired shadows within the projected area.
- **Power availability**
  - Is a reliable and stable electrical network with enough power and in reachable distance present?
  - Are there companies with strong generators in the immediate vicinity?

Photos required: projection area, surface, projector place (day/night) projector distance. Furthermore it helps us for a first “remote-check” (including potential location for projection equipment) if you can send to us a screenshot of the location taken in Google Earth - see an example as below (Airporttower Vienna, the line shows the throw with a length of around 68,15 meters. If you do not yet have Google Earth you can visit the following link:http://earth.google.com/download-earth.html and install the software on your computer (there are several versions available, the one free of charge is perfect for what we need).

click to enlarge picture



c) **Projection surface/area**

- **Dimensions and format – width x highth**
  - A smaller and homogenous projection area can be better than a big surface with many windows and structured façade.
  - The projectors work on a square-slide-format basis. If it happens to be a long drawn-out projection it can be better to use several smaller projectors, than the use of one big projector.
  - The bigger the surface, the stronger the projectors, which implies more noise. Loud and disturbing background noise can be weakened by using several small projectors rather than one big one.
  - The focal length can be calculated on our web page: www.pani.com. Under the English website, select "support", select "smart assistance", select "calculations", select "online". A small window will open, which allows to calculates the different possibilities.
- **Type, material, structure and colour, condition of surface**
  - Highly reflecting surfaces (windows, polished stones/metal such as for e.g. marble, etc.) must be covered with sun-blinds, matt adhesive film, net, paper etc. Not covered windows remain as black holes within the projection and could coincidentally influence the quality of projected pictures and writings. This should be considered in the layout of slides. Matt adhesive film should be affixed to the outside of a surface.
  - Highly coloured surfaces make it rather difficult to display complementary colours. . Slightly coloured surfaces can be considered in the slide layout thus enabling the projection of colours close to the ones intended.
  - Highly structured surfaces (stucco work, structured façade, jutties, etc.) could lead to shadows, which could again influence the homogeneity of the projection (especially if looked at from a different viewpoint than the one of the projection). General recommendation therefore is: if the surface is very structured, the slide should be the opposite (e.g. large letters, symbols, etc.), on the other side; the slide can be very structured if it is a homogenous surface

d) **On-site ambience – environmental conditions**

- **Direct and indirect light**
  - External direct light on the projected area reduces the visibility of contrasts. The projection light must be at least factor 3.7 higher, (better factor 5) than the external light to achieve a good projection. For black-and-white projections factor 2 can be enough, but it is not recommendable. To achieve the appropriate intensity of the projection light it is advisable to measure the light.
  - External light that happens to be next to or between the projection area and the spectator will lead to the contraction of the observers iris, which will adulterate the projection

(light measurement required)

4) TECHNICAL EQUIPMENT

a) Number of projectors required. How many places for installation (placement of equipment) are needed?
b) Equipment and accessories (Greyscale Shuffle, Carousel Slide Changer, Effect Equipment)
   - Does the projection consist of single or multiple image(s), scrolled images or slide-show?
   - How many slides or images?
   - What kind of dimmer is required?
   - Does the projection need special effects? (e.g. water, fire, clouds, fog, prism effect, rotating image, etc.)
   - Is a synchronous (synchronized slide show needed? Is there a cable connection or radio link?
   - Is an automatic on-/off-function needed?
c) Availability of equipment
d) Compatibility
   - Are the different components suitable for joint use?

5) DESIGN

- **a)** Keystoning
- **b)** Images/Art work: provided by client or produced by Pani
- **c)** Slide design
- **d)** Is accurate colour reproduction important? Is durability of slides important? Is artistic design important? Is cost-saving and fast slide production important?

6) SECURITY OF EQUIPMENT

a) Equipment should be secured of external access, if none of the staff is looking after it.
b) To protect the projectors from environmental influences one has to make safety measures. The different materials have different aptitude for long-term projections, e.g. film footage has great differences in fading under the projection light.
c) Are safety fences, covering for the time of no projection, protection of cables necessary? Are heightened platforms needed, in order to prevent potential road traffic from blinding?

7) STAFF AND SECURITY

a) Is enough trained staff available?
b) Should PANI organize security staff?
c) Should there be training for security staff?

8) AUTHORISATION

a) Which public authorities must be informed to get approval?
b) Which permits are required?
c) Contractual requirements with façade owner and/or property owner of projector placement

9) NOISE LEVEL

a) The sound intensity of the projectors should be included in the calculations of whether, where and which projector can be installed?
b) The sound intensity is especially relevant during the night.

Summary:
The following questions should be answered to work out a first rough technical design recommendation which itself forms the basis of the work out of a first rough commercial offer:

- project start: date
- project end: date
- duration: days
- projection time per day: hours
- distance of the throw (between projection surface and projector): meters
- potential place for set up of projection equipment:
- image size: in meters (height, width)
- type, material, structure, colour, condition, percentage of windows/glas in projection surface: description and/or photo taken during day time
- ambient light situation: measurement (Lux-meter) or photo during night time
- do you need technical support (technician) or training:
- do you need artistic, design or slide manufacturing/keystoning help:
- type of show: indoor or outdoor; general topics
- type of art-work (graphical, paintings, drawing,...), number of slides

A successful projection is the result of good and accurate preparation. This checklist should be a useful guidance for you. If you have any questions and/or commentaries, please don't hesitate to contact light@pani.com**.**