VISION
AN ALTERNATIVE TO THE COMMON PRACTICE

Subsequently to the verification of certain limits in the general practice of temporary structure for gigs and events, the project ONSTAGE (sustainable temporary structure for gigs and events) entails developing an integrated alternative regarding improved characteristics of sustainability. The project aims particularly at obtaining the following elements: architectural expression, flexibility of use, responses to acoustic requirements, optimization of the thermal comfort, non-invasive solutions, potentially applicable to permanent constructions. The process of integrated design is still under development and the realization of a first applicable prototype is planned for April 2014 in Cully, Switzerland.

STRATEGIES
COMMON PRACTICE

1a - Overheating results from the difficulty to cool on direct solar radiation and internal gains that observed the climate mode.

INTEGRATED DESIGN

1b - The double skin allows the regulation of amplitude in temperature and provides natural ventilation in periods of overheating.

BIODIYNAMIC STRATEGIES

The project will include architectural/biodiodynamic principles, especially by regarding the thermal insulation, protection from the sun, natural ventilation and passive cooling which allow the reduction of its energy demand. The project uses the given space between the two skins as a sealed space that helps to define the warm and provides a natural cooling effect and uses new materials to improve the thermal insulation for the stability of the temperature inside [10].

RENEWABLE ENERGY INTEGRATION

For the demand proportion, the integration of makes working with renewable resources will be realized, especially with references to solar energy (solar roofing including movable photovoltaic cells) and the production of warm (thermal heat pumps) [20]. It is especially about evaluating the installations of a neutral balance between the consumption of energy, on the one hand, and energy captured by the infrastructure during the same period.

ACOUSTIC OPTIMIZATION

Regarding the acoustic, the additional mass which is fixed inside the acoustic panels will help to control the acoustic of the room better and to reduce the noise level outside. According to the use of materials it is possible, just by adding an acoustic skin of 6 kg/m² to reduce the sound emissions towards the exterior up to 25 dB (20).

LIFE CYCLE ASSESSMENT

The consumption of non-renewable energy and environmental impacts could be significantly reduced by a better planning regarding materials, transport and handling systems. A comparative analysis of the life cycle between the current practice [20] and the project ONSTAGE [46] shows that the former aspects take into account during the realization, and thus considerably reduce consumption and environmental impacts.

CONSTRUCTION

SITE INTEGRATION

The festival site is located in the historic village Cully at the water’s edge of Lake Geneva, is the heart of the Lac Léman, which has been classified by UNESCO as World Heritage cultural impact.