



Carmen

Stage technology facts and figures

Construction time	The process of fabrication, assembly and final technical adjustment took about ten months. Planning extended over a period of two to three years.
Participants	37 technology firms from Austria, Germany and Switzerland were involved in building the stage. Also 18 members of the festival's technical staff, including crane operators, took part in the construction.
Wooden piles	The stage is erected on about 119 piles made of spruce wood or steel and driven up to six metres deep into the bed of the lake.
Hands	The "Lindau hand" on the left reaches approx. 21 metres at its highest point and weighs about 24 tonnes including the forearm. The "Bregenz hand" is just under 18 metres high and weighs about 20 tonnes including forearm. The hands are about 30 metres apart. They are made of polystyrene, facade plaster, several coats of paint and coating. This synthetic "flesh" is pieced together from individually modelled parts – about 190 per hand. Underneath this material is a framework of steel and wood. This is constructed of steel units for the forearm, wrist, base of thumb, palm, fingers and thumb. Each hand is stabilised by about 15 tonnes of ballast.
Flying Cards	The Flying Cards, 15 in all, measure a little under 7 m by 4.3 m. At their highest point they are 24 metres above lake level. About 57 loudspeakers are built into the Flying Cards and the hands.
Cards and Nucleus	The revolving platform of the cards and the nucleus is ten metres in diameter. Behind the revolving platform are three static cards in which five loudspeakers are concealed.
Mesh	The moving Mesh platform measures 14.3 by 10.6 metres and consists of six cards. The cards are raised and lowered at a speed of three metres in three minutes.
Beach	28 Beach Cards lie strewn on the ground and in the water. The main performance area of the Beach is a conglomerate of 18 cards. The cards are painted as a card cover and will be used as a surface for projections. Six invisible fire-bowls are built into the Beach. Fourteen loudspeakers are concealed in the Beach Cards.

Opera on the lake



**BREGENZER
FEST
SPIELE**

* All height specifications relate to the mean water level, known as "water level 2", which corresponds to the Bregenz level of 416 centimetres.



Companies involved in construction of the stage:

As of 25 April 2017 (subject to alteration)

exent AG	Cards and Nucleus / statics	Hüttwilen (CH)
formTL Ingenieure für Tragwerk und Leichtbau GmbH	Cards and Nucleus / statics, partner of exent AG	Radolfzell (D)
Vonbank + Witwer Stahlbau Fassaden Schlosserei GmbH	Cards and Nucleus, Hands and Flying Cards / contractor	Nüziders (A)
Reisch Maschinenbau GmbH	Cards and Nucleus / mechanical engineering, subcontractor of Vonbank & Witwer	Frastanz (A)
STB Steuerungstechnik Beck GmbH	Cards and Nucleus, Mesh / control technology / hydraulic unit, subcontractor of Vonbank & Witwer, Steuerer	Egg (A)
Zimmerei Emil Felder	Cards and Nucleus, Hands and Flying Cards / stage carpentry, subcontractor of Vonbank & Witwer	Bludenz (A)
la mimesi	Hands / scene building	Berlin (D)
Ziviltechnikerbüro DI Dr. Gerhard Lener	Mesh / statics	Feldkirch (A)
Ludwig Steuerer Maschinen- und Seilbahnbau GmbH & Co. KG Steuerer Seilbahnen AG	Mesh / contractor	Doren (A)
Haberkorn GmbH	Mesh / hydraulics, subcontractor of Steuerer	Wolfurt (A)
Salzmann Hafenbau GmbH	Mesh, Hands and Flying Cards, Beach / piloting, subcontractor of Steuerer, Vonbank & Witwer, Geiger	Fußsach (A)
feels-so-good!	Mesh, Hands and Flying Cards, Beach / divers, subcontractor of Steuerer, Vonbank & Witwer, Geiger	Ravensburg (D)
Hagspiel Arno	Mesh, Beach / scene building	Alberschwende (A)
Bregenzer Festspiele	Cards and Nucleus, Mesh, Hands and	Bregenz (A)



	Flying Cards, Beach / scene building	
Winter Artservice	Hands and Flying Cards / scene building elements, subcontractor of Vonbank & Witwer	Wien (A)
Geiger Technik GmbH & Co.KG	Beach / contractor, Beach / stage carpentry, subcontractor	Nenzing (A)
Mader & Flatz GmbH	concrete core statics	Bregenz (A)
Rudhardt & Gasser	civil engineering / bid invitation / planning	Bregenz (A)
Screenpix	3D planning	Klaus (A)
Dr. Brugger & Partner ZT GmbH	construction engineering	Bludenz (A)
Markowski Straka ZT GmbH	Survey work	Feldkirch Altenstadt (A)
Andres Geotechnik AG	soil mechanics	St. Gallen (CH)
Andreas Ascherl EUR ING	operational safety	Hohenweiler (A)
Kiechel und Hagleitner GmbH	electrotechnology	Bregenz (A)
BauTrans GmbH	Mobile cranes	Lauterach (A)
Liebherr GmbH	tower crane / leasing	Bischofshofen (A)
Liebherr GmbH	tower crane / installation	Rankweil (A)
Brunner GmbH	scaffolding, assembly tent	Höchst (A)
Erwin Vögel GmbH & Co.KG	transport	Doren (A)
gaisberger zt gmbh	detailed statics	Dornbirn (A)
zte Leitner ZT GmbH	statics testing	Schröcken (A)
Gebr. Ruech Recycling & Altstoffverwertung GmbH	recycling	Langen bei Bregenz (A)
neuhauser holzbau GmbH	Beach / stage carpentry, subcontractor of Geiger	Nenzing (A)
publitec Präsentationssysteme	media server d3 (for the projections on the	Herdecke (D)



+ Eventservice GmbH	cards)	
Dipl. Ing. FH Peter Martinek, MEng	civil engineering / operational safety	Nenzing (A)
Summer Metallbau GmbH	fire cards	Weiler (A)
Christian Fuchs Organic Form Productions Idee & Design – The Art Factory GmbH	Hands / milled parts	Stainz (A)

The 2017 Bregenz Festival runs from 19 July to 20 August. For tickets and information, please visit www.bregenzfestspiele.com or call tel. 0043 5574 4076.

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