

BIBM '99



**PREFABRICATING
ON THE EVE OF THE
THIRD MILLENNIUM**

16th BIBM International Congress

Venezia, May 25-28, 1999



**FINAL
PROGRAM**



WELCOME TO VENEZIA



I am particularly pleased to convey to you a first hearty welcome from the BIBM and the organising committee.

I wish also to tender you my personal thanks you for your participation to the 16th BIBM International Congress.

Also in this edition, we hope we have been able to focus on the subjects you are most interested in. This is referred to whatever role you play in the field of activities leading to the creation of construction works, or parts of them, through the use of our products.

In a few words, the standards, the materials, the technologies and the applications represent the scenario in which the sessions of the congress will be managed. Planning according to the standards, producing to the highest economic and quality levels, promoting as widely as possible the main features and advantages of our products, represent the goals our energies are devoted to, everyday and world-wide. I hold these subjects could be updated during the congress, thus following the tradition of the past BIBM congresses.

I am confident that the peculiar logistic conditions of this city and the consequent charges will be largely balanced either by the contents of the congress proceedings or by the social events completing all our congress days in Venezia.

Once again I welcome you and the persons who accompany you, and in this case I speak also in the name of all the Italian manufacturers who decisively contributed to the organisation of this important event through the support of their National Association. In addition, we wish that our hearty welcome will help you to overcome the possible difficulties hidden by this enchanting place.

Welcome with us, welcome to Venezia!

Marcello Lavizzari
BIBM chairmain



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BIBM gives a special thank for the support to the organization of the 16th International Congress

A.I.T.E.C.

BUZZI UNICEM

INDUSTRIA CEMENTI GIOVANNI ROSSI

ITALCEMENTI

PATENT DEL PROF. M. MONACHINO & C.

RAS - RIUNIONE ADRIATICA DI SICURTÀ

Je suis heureux et honoré de pouvoir exprimer, au nom du BIBM et du Comité organisateur, ce premier salut cordial. En outre je désire vous formuler personnellement mes remerciements pour avoir accepté l'invitation à participer à ce 16ème Congrès.

Nous avons visé, également pour cette édition, les sujets qui revêtent un intérêt majeur pour vous tous, quel que soit votre rôle dans le domaine des diverses activités qui portent à la réalisation d'ouvrages ou de parties d'ouvrages grâce à l'emploi de nos produits préfabriqués.

Les normes, les matériaux, les technologies et les réalisations sont, de façon très synthétique, le cadre dans lequel seront conduites les sessions de ce Congrès.

Projeter conformément aux normes, produire suivant les niveaux économiques et qualitatifs maximum, publiciser le plus amplement possible les caractéristiques fondamentales et la convenance de nos produits, sont en effet les objectifs qui sont inséparables de nos activités quotidiennes, partout dans le monde. J'estime que nous pourrions faire un nouvel ajournement sur ces sujets pendant les journées du Congrès, conformément à la tradition de tous les précédents Congrès du BIBM. Je souhaite que les conditions logistiques particulières de cette ville et les frais y afférents soient abondamment compensés pour vous tous par les contenus des travaux du Congrès ainsi que par les événements "sociaux" qui compléteront chacune des journées vénitienes. Avec ce vœu, au nom également de tous les producteurs italiens, qui par leur Association Nationale ont rendu possible cette grande manifestation, je renouvelle à vous tous et à vos accompagnateurs notre bienvenue avec l'espoir de pouvoir atténuer, par notre chaleureux accueil, les éventuels désagréments que ce lieu magique pourrait, parfois, engendrer.

Bienvenues entre nous, bienvenus à Venezia!

Ich freue mich, im Namen des BIBM und des Organisationsausschusses diesen ersten Willkommensgruß an Sie richten zu dürfen.

Ich möchte Ihnen außerdem persönlich dafür danken, daß Sie der Einladung zu unserem 16. Kongreß gefolgt sind.

Wir sind der Meinung, daß wir auch dieses Mal wieder die interessantesten Themenkreise für Sie ausgewählt haben, unabhängig von Ihrer Tätigkeit im Rahmen der Vorhaben, die den Einsatz unserer Erzeugnisse einschließen.

Normen, Baustoffe, Technologien und Ausführungsbeispiele sind, kurz gesagt, das Szenarium, das die einzelnen Sitzungen dieses Kongresses beherrscht. Planung der Vorhaben im Einklang mit den Normen, Produktion auf oberster wirtschaftlicher und qualitativer Stufe, breit angelegte Bekanntmachung der Haupteigenschaften und Hauptvorteile unserer Produkte sind die Aufgaben, die unseren Alltag bestimmen und weltweit unsere Energien erfordern. Ich glaube, daß wir wie auch anläßlich aller früheren BIBM-Kongresse unseren Wissensstand über diese Themen bei der Veranstaltung dieses Jahr hier erneut auf den neuesten Stand bringen können.

Ich hoffe, daß die besonderen logistischen Gegebenheiten dieser Stadt und die sich eventuell daraus ergebende Unannehmlichkeiten durch den Inhalt der Kongreßergebnisse und die gesellschaftlichen Ereignisse, die unser Programm in Venedig begleiten, großzügig wieder gutgemacht werden. Mit diesem Wunsch, auch im Namen aller italienischen Hersteller, die durch ihren nationalen Verband diese große Veranstaltung möglich gemacht haben, heiße ich Sie und Ihre Begleiter noch einmal herzlich willkommen. Unsere Gastfreundschaft möge Sie alle für eventuelle Unbequemlichkeiten entschädigen, die diese magische und wunderschöne Stadt gelegentlich mit sich bringen kann.

Herzlich willkommen bei uns, herzlich willkommen in Venezia!

Mi è particolarmente gradito il compito di trasmettervi, a nome del BIBM e del comitato organizzatore, questo primo cordiale saluto.

Personalmente desidero inoltre esprimervi il mio ringraziamento per aver accolto l'invito a partecipare a questo nostro 16° Congresso.

Noi pensiamo di aver individuato, anche per questa edizione, i temi di maggiore interesse per tutti voi, qualsiasi sia il vostro ruolo nell'ambito delle attività che portano alla realizzazione di opere, o di parti di esse, tramite l'impiego di nostri manufatti.

Le norme, i materiali, le tecnologie e le realizzazioni sono, in estrema sintesi, lo scenario nel quale verranno condotte le sessioni di questo congresso.

Progettare nel modo più adeguato alle norme, produrre ai massimi livelli economici e qualitativi, propagandare nel modo più ampio possibile le primarie caratteristiche e convenienze dei nostri prodotti, sono infatti gli obiettivi che impegnano quotidianamente, in ogni parte del mondo, le nostre energie.

Credo che su questi argomenti noi potremo fare, in queste giornate congressuali, un nuovo punto di aggiornamento, come è nella tradizione di tutti i precedenti congressi del BIBM. Io mi auguro che le particolari condizioni logistiche di questa città e i conseguenti oneri saranno per tutti voi ampiamente compensati sia dai contenuti dei lavori congressuali che dagli eventi sociali che completeranno ognuna di queste nostre giornate Veneziane.

Con questo auspicio, anche a nome di tutti i produttori italiani che, tramite la loro Associazione Nazionale, hanno reso possibile questa grande manifestazione, io rinnovo a Voi tutti e ai Vostri graditissimi accompagnatori, il nostro benvenuto, con l'impegno di poter attenuare, con la nostra calorosa accoglienza gli eventuali disagi che questo magico luogo potrebbe, a volte, richiederVi.

Benvenuti fra noi, benvenuti a Venezia!

SCIENTIFIC PROGRAM

Tuesday, May 25

Registration and Welcome Coffee

09.00 a.m.
Exhibition Area

Opening Ceremony - 16th BIBM International Congress

10.30 a.m.
Sala Arazzi

Presentation of the Second BIBM Award for Outstanding Precast Concrete Projects

Opening of EXPOBIM'99

11.30 a.m.

Opening lunch with delegates and accompanying persons

12.30 p.m.
Gardens of Fondazione Cini

1st Session : **Precasting for the environment - Standards**

02.30 p.m. - 05.30 p.m.
Sala Arazzi

Chairman : *Arne Skjelle* (Norway)

General Reporter : *Michel Valles* (France) ◊

FAUCON (France)

The FIB specification "factory-manufactured concrete architectural units": a common language for all parties

JANHUNEN (Finland)

New absorbing, industrially produced noise barrier

MEYER (Germany)

The European Standard for concrete EN 206 - Important requirements influencing design and production of precast concrete components

ÖBERG (Sweden)

LCA. Environmental evaluation of precast concrete components

SATO (Japan)

Precast concrete products for sustainable development: suggestion for integrating merits of concrete blocks and natural materials

TAYLOR (United Kingdom)

Prefabrication - the dominant construction technique

VAN ACKER (Belgium)

State of the art of the European Standards for precast concrete

ZANKER (Germany)

Recycled materials in concrete construction - Fields of application, development tendencies and quality assurance

GENERAL PROGRAM

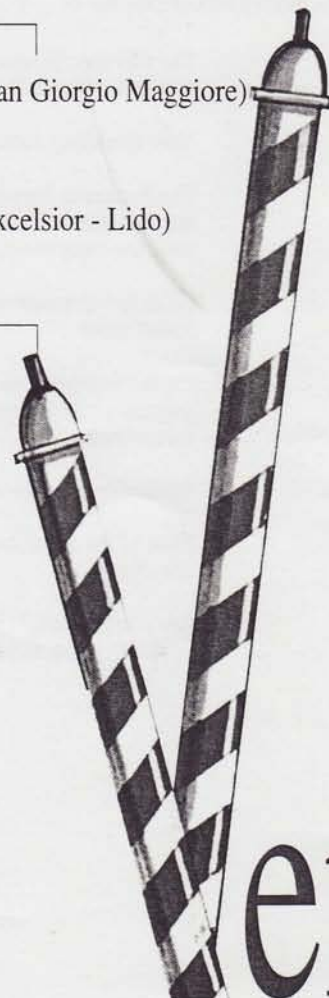
24
afternoon Registration - Congress Venue (Isola di San Giorgio Maggiore)

25
morning Registration - Congress Venue (Isola di San Giorgio Maggiore)
Opening Ceremony
Opening of EXPOBIM'99
Opening lunch with delegates and accompanying persons
afternoon 1st Session (Isola di San Giorgio Maggiore)
evening Venetian Evening (Isola di Burano)

26
morning 2nd and 3rd Session (Isola di San Giorgio Maggiore)
Working Lunch
afternoon 4th and 5th Session (Isola di San Giorgio Maggiore)
evening Concert (Scuola Grande di San Rocco, Sestiere di San Polo)

27
morning 6th Session (Isola di San Giorgio Maggiore)
Closing Session
afternoon Free
evening Gala Dinner (Hotel Excelsior - Lido)

28
all day Technical Visits



May
1999

enezia

TECHNICAL VISITS

Friday, May 28

The technical visits, which are reserved only to the delegates, are a good opportunity to meet some manufacturers and to see interesting industrial plants. Each of the scheduled tours takes up a full day and lunch is included. All transfers will be by bus, accompanied by a representative of the Italian Federation Assobeton and a hostess. Detailed information on the visits and the times are supplied in the specific secretary's office of the Congress.

- **Tour 1 - Pipes**
ILCEV (Cavarzere - Venezia)
CANZIAN (Colfosco - Treviso)
- **Tour 2 - Structures**
SIPE (Almisano - Vicenza)
- **Tour 3 - Structures**
BASSO (Treviso)
- **Tour 4 - Blocks**
MAGNETTI (Palazzago - Bergamo)
- **Tour 5 - Pavements**
MCZ (Vigonovo di Fontanafredda - Pordenone)

CONGRESS INFORMATION

■ CONFERENCE VENUE

The 16th BIBM International Congress will take place from May 25 to 27, 1999 at Fondazione Cini on Isola di San Giorgio Maggiore, Venezia.

■ REGISTRATION OF PARTICIPANTS

The Secretariat will be available to participants at EXPOBIM'99 from 3 pm Monday May 24 and throughout the whole duration of the conference. Under the regulations of Fondazione Cini, people without a badge are not admitted into the venue of the Conference. At the registration each delegate receives a Congress file which contains the final program and the volume of the proceedings. Each personal badge contains the coupons regarding the events booked by the participant. The above-mentioned coupons must be left to the desks specially prepared for collecting the ticket which also contains all information.

■ REGISTRATION OF THE ACCOMPANYING PERSONS

The accompanying person's personal badge is given together with the participant's. The badge contains the coupons pertaining to the accompanying persons' program and to the events which have been booked. The above-mentioned coupons have to be given to the desks specifically organized for collecting the ticket which also contains all necessary information.

■ OFFICIAL LANGUAGES

The official BIBM Congress languages are English, French, German. A simultaneous translation into and from English, French, German, and Italian will be provided.

■ TRAVEL AGENCY

MGR Travel will be available to all delegates throughout the whole event to organise private tours, book restaurants and visits to museums, hotels and air or rail travel.

■ BADGE COLOURS

Red	Organizing Committee
Blue	Scientific Committee Chairman and General Reporter
White	Delegates
Yellow	Accompanying Persons
Green	Exhibitors
Orange	Press

Thursday, May 27

09.00 a.m. - 01.00 p.m.
 Sala Arazzi

6th Session : **Application and experimentation**

Chairman : *Rolf Werle* (Germany)

General Reporter : *Giandomenico Toniolo* (Italy)

BENNENK (Netherlands)	Housing in the Netherlands
BONFANTI, DASSORI, FAILLA, TONIOLO (Italy)	Italian technology of precast concrete roof elements
BULLO, DI MARCO, MINGARELLI, SIVIERO (Italy)	Behaviour of arch bridges made of prefabricated high performance concrete elements
BURON, FERNANDEZ- ORDONEZ, PELAEZ (Spain)	Continuous prestressed slab bridges
DE CHEFDEBIEN, BOUSQUET (France)	Fatigue performance of pretensioned precast beams in railway bridge decks
FUKUZAWA, YASUHARA, NUMAO, SATOH, HATTORI, MITSUI, TAKABATAKE (Japan)	The structural behaviour of spun concrete box-culverts buried deep underground
KORANDER (Finland)	The Hartwall Arena - a multi-purpose stadium
LAPERTIS (Denmark)	Laboratory investigations on Danish concrete sewer pipes
PISANI (Italy)	Production process of concrete pipes to be jacked for the construction of one of the underground stations in Milan
TANKUT (Turkey)	Seismic behaviour of pin-connected precast concrete framed structures

01.00 p.m.

Closing Session

afternoon

Free

Wednesday, May 26

09.00 a.m. - 12.30 p.m.
 Sala Arazzi

2nd Session : **Materials (structures)**

Chairman : *Tugrul Tankut* (Turkey)

General Reporter : *Wim Bennenk* (Netherlands)

COLLEPARDI, COPPOLA, TROLI, ZAFFARONI (Italy)	Influence of the superplasticizer type on the compressive strength of reactive powder concrete for precast structures
CURCIO, GALEOTA, GALLO, GIAMMATTEO (Italy)	Structural properties of high-performance lightweight concrete for the precast-prestressed industry
GUERRINI, MEDA, ROSATI (Italy)	Structural behaviour of very high performance fibre-reinforced concrete beams
JEKNAVORIAN, GIANETTI, HUGHES (U.S.A.)	Application of new polycarboxylate-based superplasticizer for precast concrete
MIRAGLIOTTA, ROUGEAU, AÏT-MOKHTAR, AMIRI (France)	A methodology for predicting the advance of carbonation in concrete: influence of the microstructure of the skin layer on concrete carbonation kinetics
PELED, SHAH (U.S.A.)	Advanced prefabricated cement-based composites.
SKARENDAHL, RISE (Sweden)	Self-compacting concrete for increased productivity and improved performance
TAERWE, MATTHYS (Belgium)	The use of FRP as structural reinforcement for concrete

09.00 a.m. - 12.30 p.m.
 Sala Palladio

3rd Session : **Materials (others)**

Chairman : *Allan Dowson* (United Kingdom)

General Reporter : *Claudio Modena* (Italy)

BELL, MIRZA, PHIPPS, PETTIT, ORMESHER (United Kingdom)	Compressive strength of voided concrete block masonry
BERAUS (Austria)	Concrete with wood-chips as aggregate: effectual in solving environmental problems
BODET, STEPHAN, ROUGEAU, DUTRUEL (France)	Reuse of foundry sand in the concrete blocks
BORASI (Italy)	An innovative material: environmentally friendly fibercement. Regulations, properties, applications
BUECHNER (Germany)	New pigments for the colouring of construction materials
EGGER (Italy)	Colouring concrete - State of the art
PETERSSON (Sweden)	Some reflections on scaling resistance testing of concrete
THIENEL (Germany)	Precast elements of lightweight concrete with a porous matrix

12.30 p.m. - 02.30 p.m.
 Gardens of Fondazione Cini

Working Lunch

Wednesday, May 26

4th Session : Technology (structures)

Chairman : *Marie Anne Belfroid Ronveaux* (Belgium)

General Reporter : *Arnold Van Acker* (Belgium)

02.30 p.m. - 05.30 p.m.

Sala Arazzi

CIUFFREDA, LAVIZZARI, VINONUOVO (Italy)	Production process of prestressed beams for railways viaducts under quality control system
DEMIREL (Turkey)	A comparative study on air permeability of prefabricated concrete wall panels with and without joint
GASPERI (Italy)	A proposal for a new type of prestressed precast composite structure
IMAI, CASTRO (Japan)	Structural design and construction of precast concrete buildings using a new developed precast concrete system
KUCH (Germany)	Investigations in the field of quality assurance in the moulding and compaction of concrete products
PINNA, LAI, DELLA BELLA, DELLA BELLA (Italy)	Microwaves in the hyperaccelerated curing of concretes
QUARTEL (Netherlands)	Construction of a 6.5 km long metro track in Rotterdam with curved boxbeams
REYMANN (Germany)	Comprehensive solid house production with affordable automation under consequent use of the ideal material concrete

5th Session: Technology (others) - Marketing

Chairman : *François Leblanc* (France)

General Reporter : *Enzo Siviero* (Italy)

02.30 p.m. - 05.30 p.m.

Sala Palladio

BENNENK, SCHAAP (Netherlands)	The advanced production of reinforcement in the precast concrete industry
DAWOOD (United Kingdom)	A framework of integrating design and production system for the off-site building product industry
DOWSON (United Kingdom)	Paving material: its use and abuse in hard landscaping
LOTZ (Germany)	New media in the concrete and precasting industry - Introducing the Internet marketplace of the concrete and precasting industry Germany
PASSERINI (Italy)	The reliability of quality certification
PESCH (Germany)	Certification of precast concrete in Germany
SCHIFFLER (Germany)	The "ZUKUNFT BAUEN" forums of the German cement and concrete producers. From a monologue to a dialogue