



**INTERNATIONAL CONGRESS LYON**

OCTOBER 17 - 18 - 19, 2011

# UNDERGROUND SPACES for tomorrow

*Espaces souterrains de demain  
Opere sotterranee del futuro  
El espacio subterráneo del futuro  
O espaço subterrâneo do amanhã  
Unterirdische Räume der Zukunft  
Ondergrondse Ruimte van de Toekomst*

未来的地下空间

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AND UNDERGROUND SPACE**

**AFTES • INTERNATIONAL CONGRESS • LYON 2011**

# **UNDERGROUND SPACES FOR TOMORROW**

**OCTOBER 17-18-19, 2011**



## 1. Summary programme

	Time	AGORA
<b>Monday, 17 October</b>	8:30am	Registration
	9:15am 9:30am 11:30am 12:15am	Welcome Special presentations Opening speeches Exhibit opening
	12:30pm-2:00pm	
	1:15pm-2:15pm	
	2:30pm-4:30pm	
	4:30pm-4:45pm	
	4:45pm-6:20pm	
	7:00pm	
<b>Tuesday, 18 October</b>	8:30am-10:30am	Regional government presentations
	10:30am-10:50am	
	10:50am-12:30pm	
	12:30pm-1:30pm	
	1:30pm-3:30pm	Regional government presentations
	3:30pm-3:45pm	
	3:45pm-6:00pm	<b>Roundtable discussion</b>
<b>8:00pm</b>	<b>Gala Evening</b>	
<b>Wednesday, 19 October</b>	8h30am-10:30am	
	10:30am-10:50am	Presentation Partners Associations
	10:50am-12:30pm	
	12:30pm-2:00pm	
	2:00pm-3:45pm	
	3:45pm-4:00pm	
4:00pm-5:30pm		

Gratte-Ciel 1, 2, 3	Prestige
Cocktails	
First lesson of the master's programme	
Topic A, Session A1	Topic B1, Session B11
Break	
Topic A, Session A2	Topic B1, Session B12
<b>Welcome cocktail at Lyon City Hall</b>	
Topic D, Session D1	Topic B1, Session B13
Break	
Topic D, Session D2	Topic B2, Session B21
Lunch - Salle Forum 1	
Topic E	Topic B2, Session B22
Break	
<b>Training - Salle de la Corbeille - Palais de la Bourse</b>	
Topic C, Session C1	Topic B2, Session B23
Pause	
Topic C, Session C2	Topic B2, Session B24
Lunch - Salle Forum 1	
Topic C, Session C3	Specialised training seminar
Break	
General presentations and closing speeches	

## 2. Detailed time schedule

### MONDAY, OCTOBER 17<sup>TH</sup>, MORNING

8:30am Welcoming Delegates - Bellecour Desk

9:15am Congress Welcome chaired by Pierre OSTIAN - Welcome speech by Jacques BURDIN, president of the organizing committee.

#### 9:30am **Special presentations**

- In-Mo LEE, President of the ITA: "Earthquakes and tunnels"
- Patrice RAULIN, President of LTF and SFTRF: The Lyon-Torino project and the safety gallery of the Frejus road tunnel
- Peter TEUSCHER, PT Consultant: The Loetschberg base tunnel: the first operation years
- Pierre-Denis COUX, RFF: The EOLE 2 project
- Shaik K. ETENDJYEV, President of the Baku metro: The network extension project

#### 11:30am **Opening speeches**

- Alain BALAN, President AFTES
- Jean-Bernard KOVARIK, DGITM, General Manager for Infrastructures, Transport and Sea
- Bernadette Laclais, 1<sup>st</sup> Vice-president of the Rhône-Alpes Region
- Gérard COLLOMB, Senator-Mayor of Lyon and President of GRAND LYON

12:15pm Exhibition opening ceremony

12:30pm Cocktail and lunch

### MONDAY, OCTOBER 17<sup>TH</sup>, AFTERNOON

#### 🕒 1:15pm-2:15pm **Inaugural Masters Class - Amphi Gratte-Ciel 1, 2, 3**

- André ASSIS, chairman of ITA Committee on Education and Training
- Richard KASTNER, Vice-president Education Committee AFTES

#### 🕒 2:30pm-4:30pm - **Amphi Gratte-Ciel 1, 2, 3**

##### **Lectures on theme A, session A1: Underground space and sustainable development**

*Chairman: Jean-Claude DAUMARIE (Inexia)*

- **General Report on theme A:** "Underground space, a crucial solution for a sustainable city", presented by Willy De Lathauwer (ABTUS/BVOTS, Belgium)
- R. Sterling, H. Admiraal, N. Bobylev, H. Parker, J.P. Godard, I. Vähäaho, C. D.F. Rogers, X. Shi, T. Hanamura – Contributions of Underground Space Use to Sustainability
- Huanqing Li, A. Parriaux – Urban sustainable underground resources management: the DEEP CITY concept

- N. Bobylev – Urban Underground Infrastructure: Global Change and Sustainable Development
- M. Deffayet, L. d'Aloia-Schwartzentruber – Taking into account issues related to sustainable development in the design and operations of tunnels and underground openings

**▶ 2:30pm-4:30pm - Amphi Prestige**

**Lectures on theme B1, session B11: Latest innovations in TBM technology**

*Chairman: Patrick RAMOND (Razel)*

- **General report on theme B1** : “Technical innovations in urban tunneling”, presented by Anne Bouvard (Tractebel Eng., France)
- M. Herrenknecht, K. Bäßler – Demand for mechanized tunneling technology for the realization of infrastructure systems in complex conditions
- JN Derycke, S. Rubrecht, M. de Broissia, B. Combe – TELEMACH Project: immersed robots for tele-operated maintenance of TBM cutterheads
- F. Vallon, J.M. Sabatie, E. Baranger – Tunnel Dismantling Machine
- D. Lesueur, D. Puiatti, F. Verhelst, Cl. Joly, J. Burdin – Use of special hydrated lime in the design of grouting mortars

**4:30pm-4:45pm - Coffee break**

**▶ 4:45pm-6:20pm - Amphi Gratte-Ciel 1, 2, 3**

**Lectures on theme A, session A2: Quality of underground infrastructures**

*Chairman: Ray STERLING (Tech. Univ. Louisiana, USA)*

- T. Uffink, H. Admiraal – Underground transport of goods: a sustainable alternative
- B. Barroca, D. Serre, Y. Diaband S. Bethelot – How to evaluate the urban quality of underground linear infrastructures ?
- T. Barres, F. Guliana, F. Bolzonello and M. Schivre – Interconnecting high speed lines in southern Paris area; a new challenge to create a railway high speed link in an highly urbanized area, using the underground spaces
- JP. Palisse, G. Zunino – Underground space and urban quality

**▶ 4:45pm-6:20pm - Amphi Prestige**

**Lectures on theme B1, session B12: Interesting TBM metro works**

*Chairman: Miguel FERNANDEZ BOLLO (AETOS, Spain)*

- C. Deulofeu – “Line 9 of Barcelona Metro: problems and solutions during perforation of the Zona Franca”
- C. Oteo, JD. Moreno, J. Diez, J. Oteo – Tunnel construction in gravel soils at Sevilla, Spain, with shield and traditional methods
- S. Ghozayel, B. Lions, P. Roux, M. Roignet – The extension of metro line B from Lyon-Gerland to Oullins; under passing Rhone River and Oullins granitic basement
- Ph. Moyal, N. Beaugendre, JL. Piljan, G. Lechantre, P. Gauthier – Extension of the Paris metro line 12 from Porte-de-la-Chapelle to Mairie-d'Aubervilliers

**7:00pm - Welcome cocktail at Lyon City Hall**

**🕒 8:30am-10:30am - Amphi Gratte-Ciel 1, 2, 3**

**Lectures on theme D, session D1: Toward environmental-friendly tunnels**

*Chairman: André BROTO (Cofiroute)*

- **General report on theme D:** “Making underground space more attractive”, presented by Monique Labbé (Architectural firm M. Labbé)
- L. Chantron, A. Chabert, Carlo Ognibene – Lyon-Turin international section: new preliminary design
- R. Rodriguez, M.B. Diaz – Environmental impact due to tunnels excavation: a key aspect for its success; experiences in Asturias (Northern Spain)
- J.M. Watelet, G. Favre – Valorization of an old underground quarry: the troglodytic thermal spa of Jonzac, Charente-Maritime
- G.W. Bianchi, J. Piraud, A. Robert, E. Egal – Presentation of the activity of the AFTES Working Group 32: Characterization of the geotechnical uncertainties and risks in underground projects

**🕒 8:30am-10:30am - Amphi Prestige**

**Lectures on theme B1, session B13: Conventional urban tunnelling**

*Chairman: António PINTO DA CUNHA (LNEC, Portugal)*

- N. Dupriez, H. Thiebaut, V. Perraud, A. Bourguine – Toulon south tunnel: Adaptation of tunnel supporting methods according to surface settlements
- Ph. Autuori, S. Minec, A. Bernardet, L. Berend – South tube of Toulon tunnel: calculation of temporary support and lining
- B. Bizon, Ch. Blouet, V. Doré, S. Leroux – Paris metro line 4; dealing with settlements during the crossing below Paris ring road, using the precutting method
- M.F. Menezes da Conceição, C.J. Oliveira Baião, R. Prado – Lisbon metro Red Line; design and construction of alternative solutions for the Moscavide and Encarnação stations’ underground galleries
- J. Bilé Serra, L. Miranda – The influence of the ground variability on the settlements caused by tunnel excavation

**10:30am-10:50am - Coffee break**

**🕒 10:50am-12:30pm - Amphi Gratte-Ciel 1, 2, 3**

**Lectures on theme D, session D2: Toward new underground spaces in the city**

*Chairman: Jean-Claude BOUCHERAT (CESER Île-de-France)*

- M. Labbé – Introducing the French national research project: “Ville 10 D, ville d’idées” (Ten-dimensional Town)
- S. D’Ascia, JM. Duthilleul, E. Tricaud and A. Magnaghi – The new TGV station of Torino-Porta-Susa
- V. Geburtig – Rehabilitation of the Châtelet-Les-Halles metro stations complex at Paris
- T. Guillemain, R. Feredj, L. Sancho de Coulhac – OSMOSE stations, three urban and transport projects?

▶ **10:50am-12:30pm - Amphi Prestige**

**Lectures on theme B2, session B21: New methods for investigation, design and construction**

*Chairman: Jean-François LEUGÉ (Bouygues)*

- **General report on theme B2:** “Technical innovations in mountain tunneling”, presented by Piergiorgio Grasso (Geodata, Turin)
- T. Bonnet-Eymard, F. Thariat, M. Piedevache, J. Provot, L. Richard-Panot, G. Armand, R. Laviguerie, F. Martin – Flexing support for excavation in CMHN “argilite”
- M. Ramoni, G. Anagnostou, N. Lavdas – Segmental linings under squeezing pressure
- X. Mourrat – Nam Theun 2, Laos, Hydroelectric Project: excavation of a 600 m long tunnel in karstic rocks

**TUESDAY, OCTOBER 18<sup>TH</sup>, AFTERNOON**

▶ **1:30pm-3:30pm - Amphi Gratte-Ciel 1, 2, 3**

**Lectures on theme E: Project financing and contracts**

*Chairman: Bruno FLOURENS (RFF Lyon)*

- **General report on theme E,** presented by Alain Chabert (LTF) – Characterization of uncertainties and risks in underground projects
- A. Bourget – Cost estimating of underground structures as a basis for their financing
- H. Tournery, A. Robert – Risk management of underground works ; issues, assessment and prospects
- R. Munier, P. Tissier, M. Roignot and S. Ghozayel – Extension of the Lyon metro line B from Gerland to Oullins; originality of the mode of establishing the contract
- A. Cuccaroni, P.L. Veyron, A. Lacroix, M. Russo – 2nd Part of Paris-Strasbourg TGV Line: lot 47 and Saverne Tunnel underground projects

▶ **1:30pm-3:30pm - Amphi Prestige**

**Lectures on theme B, session B22: Conventional tunnelling at medium depth**

*Chairman: Enrico ARINI (Metropolitana Milano)*

- F. Bultel, H. Tournery, JJ. Lacaze, X. Richer de Forges – Three tunnels on construction of the A89 East Highway: a work of exceptionally magnitude in a sensitive environment
- A. Martinotto, L. Thévenot – Between Loire and Rhône: the Violay tunnel. Major difficulties for a major tunnel
- O. Toni, G. Matyukhien, E. Solntsev, V. Gridasov, M. Belenky – Tunnels for the new “Adler - Krasnaya Polyana” link for the Sochi 2014 Winter Olympics Games
- S. Maccan, S. Stefanizzi, F. Bontempi, M. Palomba – Access tunnels to the Sochi Olympic Area: an example of a coupled mechanized and conventional approach of excavation
- R. Justa Camara, F. Vidal Gramage, L.M. Pinillos Lorenzana – Conventional or mechanized tunneling decision making: case study of Camarillas tunnel

**3:30pm-3:45pm - Coffee break**

- ▶ **3:45pm-6:00pm - AGORA**  
**Round Table, Pierre Ostian, journalist**  
**“Underground spaces to build Europe”**

**8:00pm - Gala Evening - Salle de la Corbeille, Palais de la Bourse**

**WEDNESDAY, OCTOBER 19<sup>TH</sup>, MORNING**

- ▶ **8:30am-10:30am - Amphi Gratte-Ciel 1, 2, 3**

**Lectures on theme C, session C1: Strategy for tunnels management**

*Chairman: Pierre KOHLER (BG Ing. conseils, Switzerland)*

- **General report on theme C:** “The long life of underground constructions”, presented by Didier Lacroix (CETU)
- M. Deffayet, J.C. Martin, C. Larive, F. Spataro – Once the road tunnels safety has been upgraded, what is the most appropriate asset management approach ?
- D. Llanca, P. Breul, A. Talon, C. Bacconnet, Y. Haddani, P. Goirand, L. Leulet – Characterization of the components of an underground structure in operation for evaluating of its functionality
- J. L. Mahuet – Presentation of the AFTES Recommendations concerning the interior coating treatments of underground works
- Ch. Löwe, B. Fischer, H. Kramer, Ch. Walder – Waterproofing systems for tunnels; chemical resistance after 10 years exposure

- ▶ **8:30am-10:30am - Amphi Prestige**

**Lectures on theme B2, session B23: TBM tunnelling at great depth**

*Chairman:Loïc THEVENOT (Eiffage)*

- Th. Jesel, S. Pedrazzini, O. Böckli – 60 km of tunneling beneath the Alps: TBM excavation of Gotthard basis tunnel South
- F. Laigle – Design of tunnel bolting; progress of the AFTES WG30
- D. Simonnet, N. Miche, E. Mathieu, D. Di Lorenzi, F. Chille, M. Schivre, M. Thone – Safety gallery of the Frejus highway tunnel: retro-analysis of the conventional construction of the highway tunnel, in order to choose a mechanized method in high deformable environment
- P.A. Scherwey – TBM excavation of deep base tunnels
- A. Damiano, G. Venturini, M. Alzate, G. Mancari, A. Dematteis, L. Soldo, M. Vendramini – The geological reference model for the “Corredor Bioceanico Aconcagua” project

**10:30am-10:50am - Coffee break**

- ▶ **10:50am-12:30pm - Amphi Gratte-Ciel 1, 2, 3**

**Lectures on theme C, session C2: Heavy renovation of urban tunnels**

*Chairman: Michel DEFFAYET (CETU)*

- L. Arth, V. Roucou-David, N. Boyer, J. Lecointre, M. Russo – Safety improvement of the A14-A86 underground highway crossing near Paris; design and build contract

- G. Labrit, M. Chatard, F. Walet, J. Dupont – Rehabilitation of the Croix-Rousse roadtunnel at Lyons; from the works specifications to the design-and-build contract
- E. Clayton, B. Soler, J. Voiron – Rehabilitation of the Croix-Rousse road tunnel at Lyons; specific points of the detailed design
- A. Pinto, J. Guimaraes, J. Saraiva, S. Lopes, P. Olivença – Rehabilitation of the Montemor tunnel

▶ **10:50am-12:30pm - Amphi Prestige**

**Lectures on theme B2, session B24: TBM tunnelling at medium depth**

*Chairman: J.F. THIMUS (ABTUS/BVOTS, Belgique)*

- F. Dudouit, R. Sturk – Hallandsås Project; treatment of a fault zone by a major freezing exercise to secure the TBM excavation
- Th. Camus, G. Fontanille, J.L. Champeaux, J. Margareto, F. Fajardo – Single shield TBM performance in carboniferous rock: the case study of Pajares-Sotiello tunnel, Northern Spain
- G. Seingre, T. Ihly – The Nant-de-Drance pumped storage plant: a large underground hydro-power project in the Alps
- P. Jarrin, G. Deveze, J. Moreau, F. Renault, L. Suquet – Underground works of the nuclear power plant Flamanville 3

**WEDNESDAY, OCTOBER 19<sup>TH</sup>, AFTERNOON**

▶ **2:00pm-5:30pm - Amphi Prestige**

**Special training Seminar: “Geotechnical and environmental impact of urban underground works”**

*Chairman: Richard KASTNER (Prof. Emeritus, INSA/Lyon, Chairman of the TC28 of ITA)*

1. Special conditions of urban projects, and influence on design and execution methods: B. Lions (Egis Rail)
2. Geotechnical and hydrogeological conditions: J.F. Thimus (Univ. Louvain, Belgium)
3. Characterization and vulnerability of existing buildings: D. Mérakeb (RATP)
4. Settlements: origin, development, calculation and prevention: E. Antoinet (Antea Group)
5. Monitoring of tunnel and buildings during tunnel advance: N. Dupriez (Setec TPI)
6. Environmental impact of works and management of local inhabitants: E. Chiriotti (Systra)
7. Risk management and responsibility of all parties: J. Robert (Arcadis)

**General discussion and conclusions by R. Kastner**

**▶ 2:00pm-3:45pm - Amphi Gratte-Ciel 1, 2, 3**

**Lectures on theme C, session C3: Heavy renovation of underground international links**

*Chairman: Eric LECA (Systra)*

- A. Valente, F. Bezzi, S. Papale, D. Lacroix – The new Col-de-Tende road tunnel: a project for improving traffic safety. From excavation works to operation
- B. Kohlböck, R. Schnabl – The refurbishment of the 1st tube of the Tauerntunnel; special solutions and the chance to upgrade functionality and maintainability
- X. Baumgard, L. Brino – Comparison of solutions and safety costs for the design of long railways tunnels
- C. Jassionnesse, S. Godard, Ch. Montantème – Hydrogeological conditions and environmental impact of the French section of the CEVA project (Geneva-Annemasse)

**3:45pm-4:00pm - Coffee break**

**▶ 4:00pm-5:00pm – Amphi Gratte-Ciel 1,2,3**

**General and closure addresses**

*Chairman: Jacques BURDIN (AFTES)*

- J. Piraud – Looking toward the future of the AFTES Recommendations
- P. Garnier – Presentation of the new “Fascicule 69 du CCTG Travaux” (French general technical specifications for public projects - Underground works)
- A. Balan – Closure address

**Session proceedings**

Simultaneous French-English and English-French translation will be provided throughout all sessions on all three days, except for the specialised training seminar. Helmets translation will be provided at the front desk in exchange for an identity.

At the start of the first session for each topic, the rapporteur-general will present the key features of the communications to be published in the Proceedings of the Congress, particularly those which will not be included in the oral presentations.

At the end of each session, delegates may put their questions to the session's speakers.

## **3. Commercial presentations**

**▶ AGORA**

- ITA-TECH, Monday October 17<sup>th</sup>, 3:30pm-4:30pm
- Compact-Filter-Technic, Tuesday October 18<sup>th</sup>, 10:00am-10:30am
- Elkuch-Bator AG, Tuesday October 18<sup>th</sup>, 10:30am-10:50am
- Fogtec SARL, Wednesday October 19<sup>th</sup>, 10:00am-10:20am

## 4. Round-table Conference

### “Contribution of tunnels and underground spaces in building Europe”

This year will see the European Union publish its strategic “Transports 2050” white book concerning transportation policy. Its aim is twofold:

- to reinforce the structural interchanges represented by large cities, allowing them to better feed their surrounding regions,
- to favor links between these large cities thanks to a network of corridors making a design of priority routes.

The Congress Round Table to be held on 18 October will examine two separate issues. It will first look at large cities and the potential use of underground space to build up multimodal stations and service spaces. It will then focus on priority circulation corridors and, in particular the major Alpine crossings, including the Lyon-Turin transalpine rail link.

The Round Table will be run by Pierre Ostian, journalist, with the presence of experts on the stage and the projection of reports and interviews.

Speakers table "Hubs"	Personalities	
	<b>Silvio d'Ascia</b>	Architect
	<b>Jean-Marc Bailly</b>	Pres. Com. CESER RA
	<b>Jean-Claude Boucherat</b>	Pres. CESER Ile-de-France
	<b>Jean-Luc Da Passano</b>	Vice-Pres GRAND LYON
	<b>Rémi Dorval</b>	VINCI
	<b>Philippe Grillot</b>	Pres. CCI Lyon
	<b>Dominique Perrault</b>	Architect
	<b>Ines Ayala Sender</b>	Member EU Parliament

Speakers table "Corridors"	Personalities	
	<b>Joan Amoros</b>	Secretary General FERRMED
	<b>Louis Besson</b>	Pres. French Deleg. CIG of Lyon-Torino
	<b>Jean-Claude Casella</b>	Dir. Strategy SNCF
	<b>Alain Chabert</b>	Dir. Studies and Projects LTF
	<b>Jean-Louis Chauzy</b>	Pres. CESER Midi-Pyrénées
	<b>Noël Comte</b>	Pres. OITC
	<b>Michel Dantin</b>	Member UE Parliament
	<b>Bruno Flourens</b>	Dir. RFF RA-Auvergne
	<b>Bernadette Laclais</b>	1 <sup>st</sup> Vice-pres. Transportation R-A Region
	<b>François Lepine</b>	Vice-pres. Deleg. Transalpine Committee
	<b>Pierre-André Meyrat</b>	Office of Transportation Switzerland
	<b>Jean-Pierre Vial</b>	Vice-pres. (Lyon-Torino) CG Savoie
<b>Mario Virano</b>	Com. extra. gouv. italian Lyon-Torino	

*Subject to the presence of the above mentioned guests*

## 5. Publications

Delegates will be supplied with the Proceedings of the Congress (summary papers and digital media) on arrival. These will include all the communications selected, whether or not they have been presented in sessions.

## 6. Technical Excursions

### Technical tours

🕒 **Monday, 17 October, 2:00 pm - 5:00 pm:**

**Worksite of the second tube for the Croix-Rousse Tunnel  
(Lyon, 4<sup>ème</sup> arrondissement)**

Organiser and guide: J-F. Jaby

🕒 **Tuesday, 18 October, 9:00 am - 12:00 pm**

**Lyon Parc Auto (Lyon Car Park)**

Organiser and guide: M. Guillaud

🕒 **Wednesday, 19 October, 9:00 am - 12:00 pm**

**Worksite of the tunnel under the Rhône River for the Gerland-Oullins extension of Lyon Metro Line B**

Organiser and guide: J-F. Jaby

### Post-Congress Tour / Thursday, 20 October

🕒 **Safety gallery for the Fréjus road tunnel**

Tour of the French entrance in Modane. Lunch at Fort Marie Christine and then a tour of the Esseillon forts.

## 7. Events

The following events have been scheduled:

🕒 **Welcome cocktail at Lyon City Hall, Monday 17 October, 7:00pm.**

🕒 **Gala Evening in the Salle de la Corbeille of the Palais de la Bourse,  
Tuesday, 18 October, 8:00pm.**

Come and join us for an unforgettable evening ! AFTES invites you to a visual and gourmet journey throughout that evening with, among others, the presence of Marc Veyrat, a renowned French chef, the only one in the history of cuisine to have been rewarded twice by a three star mark in the Michelin Guide and also twice by the highest 20/20 score in the Gault & Millau guide. Those wishing to participate can still register at the Congress welcome desk; the cost is 125€/person.

## 8. Exhibition - List of Exhibitors

COMPANIES	STAND N°
<b>PARTNERS ASSOCIATIONS</b>	
AFTES - ABTUS/BVOTS - AETOS - FGU/GTS - SIG/ITS	
CPT/SPG - ITA/AITES	AP
<b>HOME PRESS</b>	1-3
<b>ASSOCIATIONS - COMMITTEES - SCHOOLS</b>	
CFGI - CFMR - CFMS - BRGM - SFBR - SIM - FSTT - AUGC	
AFGC - ASTEE - COFHUAT - COBATY - AITF	AR
ABTUS / BVOTS - CEI-De Meyer NV - Denys NV	
Fora-Consulting SPRL - Galère SA - Smet-Tunnelling NV	
Wayss & Freytag Benelux NV) Belgique	108
ACO PASSAVANT AG	27
ADDAX	304
ALP TRANSIT GOTTHARD	201-203
AMBERG ENGINEERING Ltd	325
ANIXTER - Sofrasar	144
ANTEA GROUP	49
ARAMINE SAS	249
ARCADIS (Sponsor)	318-320
ARTELIA Ville et Transport	145
ASQUAPRO	40
A.S.T. BOCHUM GmbH	221
ATC BTP INDUSTRIE	259
ATLAS COPCO Forage et Construction	355
ATP s.r.l.	8
AXIMA SEITHA - Agence Tunnels	157-159
BASF Construction Chemicals France (Sponsor)	208-210-311
BEKAERT France SAS	103
BELLOLI SA	350
BENTOFRANCE	147
BLET	300
BMS	309
BONNA SABLA	123
BONNARD & GARDEL Ingénieurs Conseils	206
BOUYGUES TP (Sponsor)	21
BRUNO F.LLI S.R.L.	52
CARSAT Rhône-Alpes (Caisse d'assurance retraite et de la santé au travail)	41
CATERPILLAR TUNNELING CANADA CORPORATION	110
CBE Group	248-349
CE2A	101
CEGELEC	238-240
CELLUMAT	367
CENTRE D'ETUDES DES TUNNELS	141-143
CETCO Europe Limited	39
COMPACT-FILTER-TECHNIC - KORFMANN - HEINTZMANN	
SCHULTE-STRATHAUS	333-335-337
CHANTIERS MODERNES	217-219
CHRYSO SAS	351
CIMBETON	324-326
CITIOLOG	7
CMC	255
CONDAT SA	156-257
CPT (Commission Portugaise des Tunnels)	148

CSM BESSAC	140-241
DE NEEF	220
DOERKEN SAS	14
ECE COGEMACOUSTIC	48
EDF Centre d'Ingénierie Hydraulique	344
EDILON SEDRA	352
EGIS - SPONSOR ARGENT / SILVER PARTNER	113-115
EIFFAGE Travaux Publics	252-254-353
ELKUCH-BATOR AG	306-308
EPC FRANCE	250
ESOPE CONTINENTAL	164
ETANDEX	262-264
ETERNIT	303
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