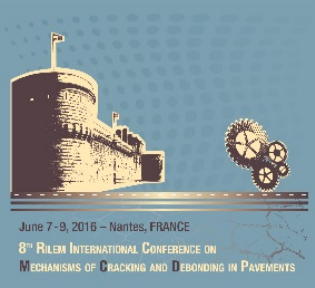


RILEM & road materials activity overview

Hervé Di Benedetto



International Union of Laboratories
and Experts in Construction
Materials, Systems and Structures



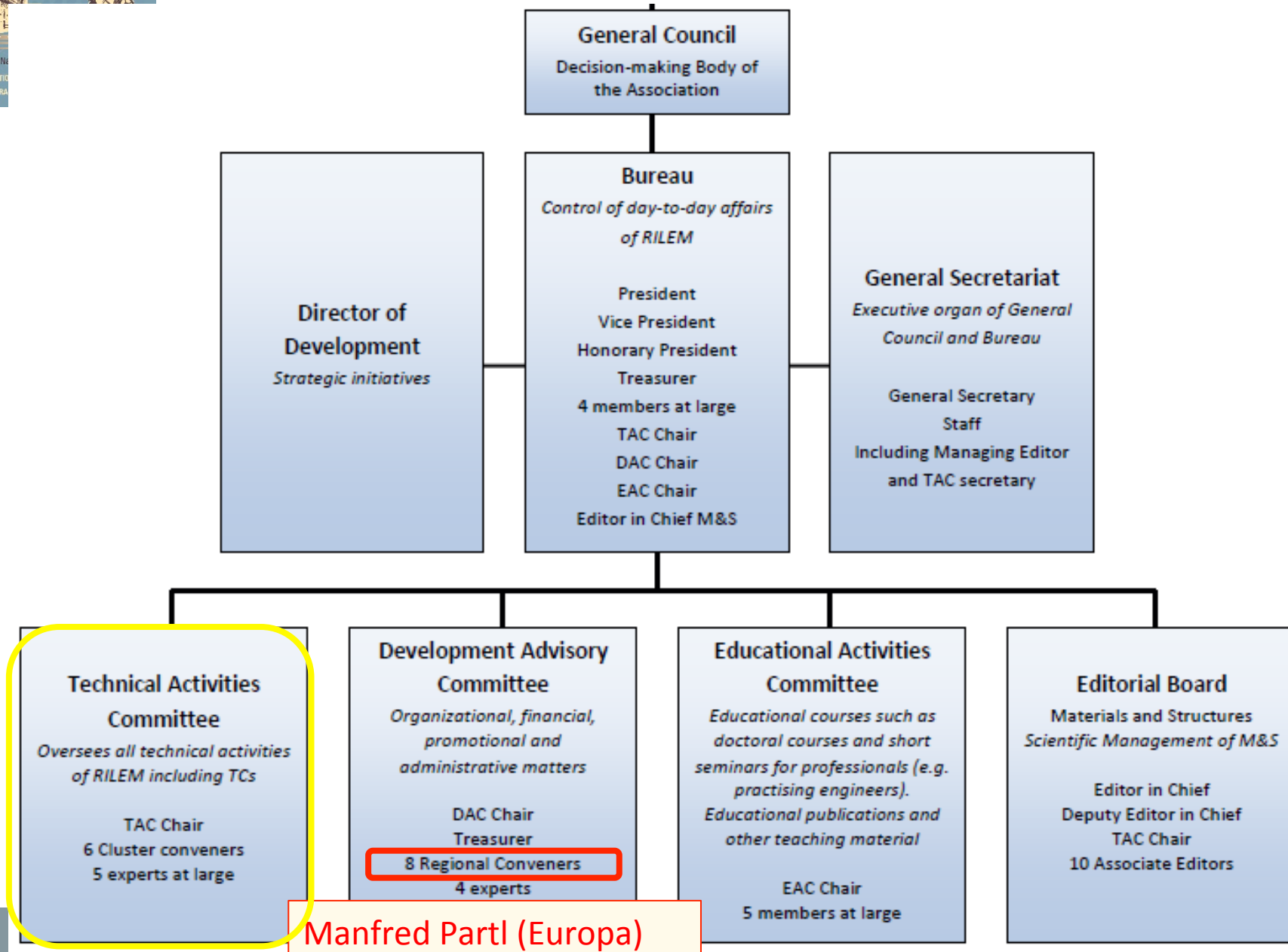
Outline

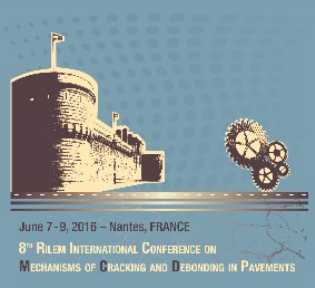
- Rilem organisation
- General information TAC & TCs
- Cluster F : bituminous materials and polymers



June 7-9, 2016 - NA
8th RILEM INTERNATIONAL
MECHANISMS OF C&A

Rilem organisation chart





Some names

- **RILEM President:** Johan Vyncke (Bel) from 2015 (3yrs)

- **Vice-President:** Ravindra Gettu (In)

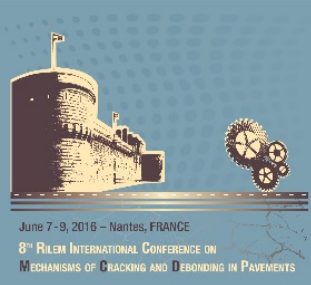
- **Secretary General:** Pascale Ducornet (Fr)

- **Editor «Materials & Structures»:** Pietro Lura (CH)

- New** → • **Editors «Rilem technical letter»:** Nicolas Roussel (Fr)

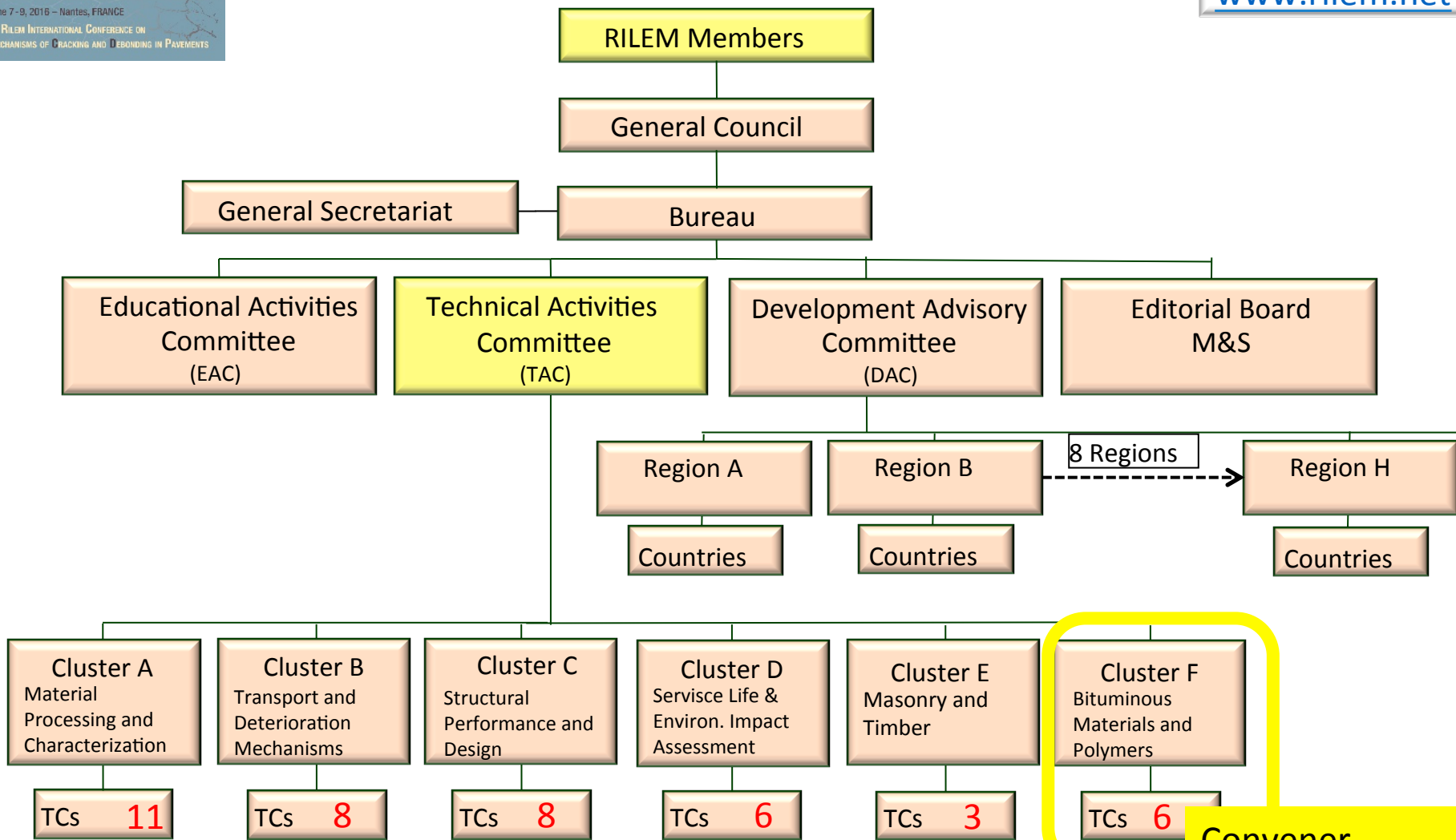
- **Robert L'Hermit Medallist 16:** Nobody

- New** → • **Gustavo Colonnetti Medalists 16:** Susan BERNAL LOPEZ & Ruben SNELLINGS



RILEM Organization

www.rilem.net



About 1200 experts in TCs & 42 active TCs

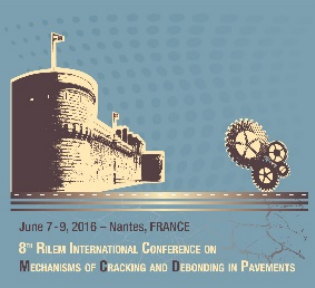
Convener
H. Di Benedetto



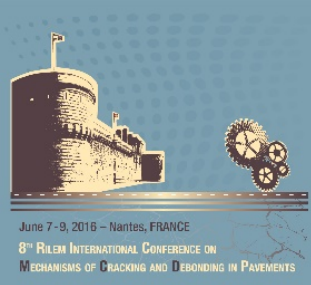
General information on TAC and TCs

- Tech. Advi. Com. has 2 meetings per year
 - During rilem week (next in Lingby 15th – 24th Aug.)
 - In Paris & elsewhere (spring meeting: in March)
- TAC Chair : Nicolas Roussel (since 2014)
- In 2016, 42 TCs are active (5 years up to 7 years), 6 are without number

- Next Annual Weeks
 - 70th 2016, LYNGBY (COPENHAGEN), Denmark, 15-24 Aug.
 - 71st 2017, CHENNAI, India, 2-7 Sep. → a session “Bituminous binders and mixtures”

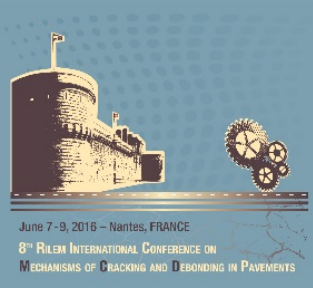


Cluster F: Bituminous materials and polymers



Cluster F: Bituminous materials and polymers

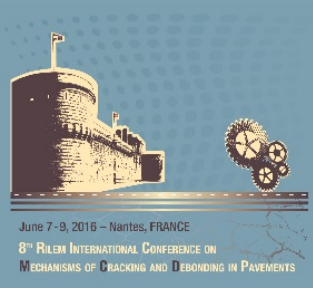
- 4 active TCs
 - **Testing and characterization of sustainable innovative bituminous materials and systems (SIB 237)** (starting 2010 end 2017)
 - **Mechanisms of Cracking and Debonding in Asphalt and Composite Pavements (MCD 241)** (starting 2011 end 2017)
 - **Chemo-Mechanical Characterization of Bituminous Materials (CMB 252)** (starting 2013)
 - **Recycling of Asphalt Pavement (RAP 264)** (starting 2015)
- 2 starting TCs **in 2016**
 - **Crack-Healing of Asphalt Pavement Materials (CHA)**
 - **Phase and Interphase behaviour of bituminous Materials (PIM)**



Testing and characterization of Sustainable Innovative Bituminous materials and systems (SIB 237)

M. Partl (CH), E. Chailleux (F) : starting 2010

- TG 1: Binders (Dariusz Sybilski) Closed and Cancelled in 2014
- ~~TG 2: Mixture design and compaction (Hussain Bahia)~~
- TG 3: Mechanical testing of mixtures (Herve Di Benedetto)
- TG 4: Pavement multilayer system testing (Francesco Canestrari)
- TG 5: Recycling (Paul Marsac)
- TG 6: Cold Recycling (Gabriele Tebaldi)



Testing and characterization of Sustainable Innovative Bituminous materials and systems (SIB 237)

M. Partl (CH), E. Chailleux (F) : starting 2010



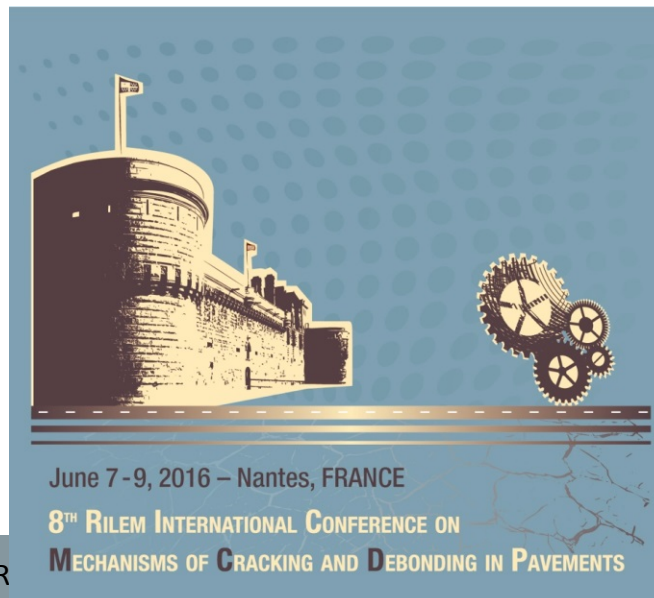
- Many outputs
- Successful ANCONA conference in 2015
- Will end very soon with STAR book

→ Follow up PIM

Mechanisms of Cracking and Debonding in Asphalt and Composite Pavements (MCD 241)

B. Buttlar (US), A. Chabot (F): starting 2011

- TG1: Cracking in Asphalt Material (Eshan Dave, UN)
- TG2: Interface Debonding Behaviour (Christophe Petit, UL)
- TG3: Advanced Measurement Systems for Crack Characterization (Gabriele Tebaldi, UP)



More information
during this
conference

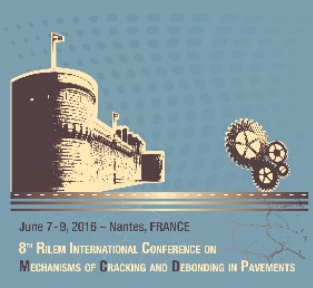
→ Will end soon



Chemo-Mechanical Characterization of Bituminous Materials (CMB 252)

N. Kringos (S), L. Poulikakos (CH) : starting 2013

- TG1: Chemo-Mechanical Coupling Identification (James Grenfell, UN)
 - Identifying chemo-mechanically coupled properties of selected bituminous materials (literature study, STAR programed),
- TG2: Chemo-Mechanical Laboratory Characterization (Troy Pauli, WRI and Alexander Schmetz, TU Delft)
 - Round robin tests planed : Quantifying dominant parameters of selected chemical and mechanical properties
- TG3: Environmental Susceptibility Investigation (Bernhard Hofko, TUW)
 - Focused on aging of mixtures

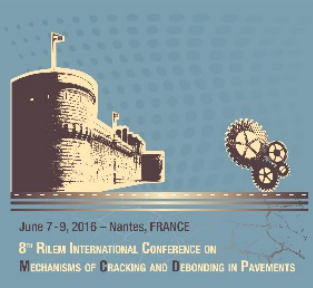


Recycling of Asphalt Pavement(RAP 264)



G. Tebaldi (I), E. V. Dave (USA): starting 2015

- TG 1: Cold Recycling - with foam bitumen and with bituminous emulsion (D. Perraton & A. Carter, ÉTS Montréal)
- TG 2: Hot and Warm Recycling (P. Marsac, IFSTTAR)
- TG 3: Asphalt Binders and Additives for RA (M. Hugener, EMPA)
- TG 4: Life Cycle Assessment (G. Airey & A. Apeageyi, U. of Nottingham)



Phase and Interphase behaviour of bituminous Materials (PIM)

E. Chailleux (Fr), C. Raab (CH): starting 2016 follow up of SIB

- TG1: Binders (L. Porot, A Ch.)
- TG2: Mixtures (C. Sauzéat, U. Lyon/ENTPE)
- TG3: Pavement multilayer system (F. Canestrari, UPM)



Crack-Healing of Asphalt Pavement Materials (CHA)

H. Baaj (Ca), E. Schlangen (DN): starting 2016

- TG1: Literature Review
- TG2: Laboratory experimentation
- TG3 Numerical Modeling

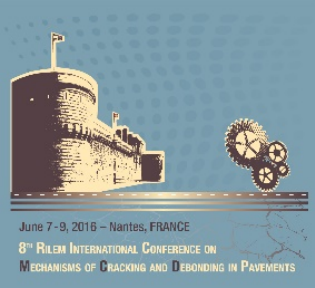
To be specified during next annual meeting of the Cluster TCs (Montréal 27-30 Sept.)



Two projects for new TC or TG

- Emulsions - Cold Mixtures : A. Graziani (UPM) & A. Carter (ETS)
- Waste – marginal materials for BM: L. Poulikakos & B. Hofko
 - A survey proposed to precise the project

Will be discussed during next annual meeting of the Cluster TCs (Montréal 27-30 Sept.)



General remark

- Good coordination among the TCs on bituminous materials
- Each year well attended common annual meeting
- TCs produce results and documents of great value for the Asphalt community

→ Strength the links among the asphalt and road community and makes it stronger and more visible

→ Next annual meeting of cluster F TCs: Montréal, 27-30 sept

RILEM TCs on Bit. Materials: a long history

More to Come... Join!!!

1968...1979 **017-BM** Bit. & Bituminous Materials

1st 1968
Dresden

1980 ...1986 **056-MHM** Hydrocarbon Materials (Huet)

1986...1992 **097-GCR** Applic. of Geotext. to Crack Prevent. in Roads (Rigo)

2nd 1975
Budapest

1987..1992 **101-BAT** Bit. & Asphalt Testing (Fritz)

3rd 1983
Belgrade

1992..1998 **152-PBM** Perform. of Bit. Mat. (Francken)

1993..2000 **157-PRC** Syst. to prevent Reflect. Crackg. on Pav. (Francken)

4th 1990
Budapest

1999..2004 **182-PEB** Perform. Testg. & Eval. of Bit. Mat. (Partl)

6th 2004
Limoges

2004..2010 **206-ATB** Adv. Testg. & Charact. of Bit. Mat. (Partl)

2004..2011 **210-CAP** Cracking in Asphalt Pav. (Molenaar)

5th 1997
Lyon

2010.. **237-SIB** Testg. & Char.. of Sust.. Innov. Bit. Mat.& Syst. (Partl)

2008..2013 **231-NBM** Nanotech.-Based Bit. Materials (Birgisson)

6th 2003
Zürich

2011.. **241-MCD** Mech. of Crackg. & De-bondg. in Asph. & Compos. Pav. (Buttlar)

7th 2009
Rhodes

7th 2012
Delft

2015.. **RAP** Recycling of Asphalt Pavements (Tebaldi)

2013..2018 **CMB** Chemo-Mech. Charact. of Bit. Mat. (Kringos)

2013
Stockh.

8th 2015
Ancona

2016.. **SIB Follow Up PIM** (Chailleux)

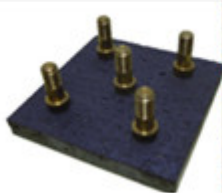
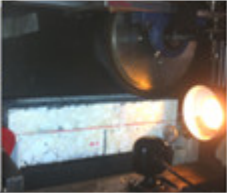
8th 2016
Nantes

2017.. **MCD Follow Up ?**

2016.. **CHA** Cracking- Healing of Asphalt (Baaj)



Join us within Rilem TC



*With you the successful
story will continue*





Thank you

