



**Save the date:  
March 18<sup>th</sup> 2020**

**11<sup>th</sup> VERT Forum**

# Technologies and Policies towards Zero-Emission Combustion Engines

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**Conference venue:  
EMPA / Dübendorf (Switzerland)**

## About the VERT Forum

The annual VERT Forum is a one-day conference held at EMPA, the Swiss Federal Laboratories for Materials Science and Technology, in March in close cooperation between VERT and EMPA. Scientists and practitioners discuss the latest trends of Best Available Technology to minimize health- and climate-impact of combustion engine exhaust. This year we will discuss the potential to stepwise reach near zero emissions and minimize climate impact of the in-use fleet at minimum cost and transition time.

Cordially invited are members of

- » environmental and municipal traffic authorities
- » manufacturers, owners, and operators of buses, HD and LD commercial vehicles, construction machinery
- » manufacturers, owners, and operators of vessels, locomotives and airplanes
- » public transport, harbor and airport management
- » regulatory authorities and research institutes
- » manufacturers of emission control technologies
- » manufacturers of emission measurement equipment

## Registration

Registration via email to [kathifrenkel@gmail.com](mailto:kathifrenkel@gmail.com). There is no participation fee. The conference will start at 9.00 and last until 17.30, including a free lunch for all participants. The final program will be distributed in January. Reduced accommodation rates are available.

## Conference venue

The conference will be held at EMPA (Überlandstraße 189, 8600 Dübendorf/Switzerland) near Zurich.

## Exhibition

Parallel to the conference there is an exhibition with emission control technology and measuring instruments. For participation please contact [j.schmidt@vert-dpf.eu](mailto:j.schmidt@vert-dpf.eu).

Year by year about 120 experts attend the VERT Forum in Dübendorf near to Zurich. Participants come from all over the world, e. g., USA, UK, China, Israel, India, Iran, South Korea and China. Talks focus on

- » best practice cases in cities and regions from all over the world on retrofit projects, e. g., for buses, construction machinery, heavy-duty and light-duty commercial vehicles, locomotives and vessels
- » research projects and the latest scientific findings
- » new regulations
- » organisational approaches like low emission zones
- » emission monitoring projects and technologies

Please find presentations of former conferences and a video about the last event at [www.vert-dpf.eu](http://www.vert-dpf.eu) in the events section. Talks will also be published there after the conference.

## Conference program

### Keynotes

- » E-fuels/renewable synthetic fuels
- » Chemistry and health impact of classic fuels and e-fuels
- » Climate impact of classic fuels and e-fuels

### New Scientific Findings

- » 4-Way-Catalyst - Status and perspectives
- » New catalyst coatings for high sulfur marine fuels
- » CO<sub>2</sub> reduction by decoupling of engine and exhaust after-treatment
- » Petrol engines as high emitters

### Applications

- » PN emission of aircraft engines
- » Low-emission marine engines of the future
- » Air pollution of handheld machines
- » Emissions of locomotives
- » New technologies of non-road mobile machinery

### Markets

- » Berlin extends emission reduction to construction machinery
- » DeNO<sub>x</sub> retrofit program in the UK
- » DeNO<sub>x</sub> approaches in German cities
- » Emission control strategies in Tehran
- » Status of the CALAC+ in Latin America
- » First nanoparticle conference in Mexico
- » Low Emission Zones in Israel
- » South Korea: Retrofit program for construction machinery
- » Emission reduction in China

### Legislation

- » NPTI: Periodic technical inspection of diesel cars in Europe and South America
- » The evolution of vehicle emissions legislation in Europe: The way towards Post-Euro VI/6
- » Post-Euro VI/6 - the Swiss perspective
- » Post-Euro VI/6 - the DUH perspective



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Conference organisation:  
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## About VERT<sup>©</sup>

### What VERT stands for

- » The core objective of VERT is the minimization of health burden caused by combustion engine emissions, in particular in the elimination of Ultra Fine Particles (UFP)
- » Members of VERT: Manufacturers of engines, emission reduction technology and emission measurement; emission control institutions and emission research organisations
- » Certifying emission control technologies (VERT<sup>®</sup> Label) and publishing the VERT filter list
- » VERT supports traffic pollution reduction programs all over the world, in particular in megacities

### What makes VERT unique

- » VERT pushes legislation worldwide for Best Available Technology
- » VERT pioneers new methods for emission reduction and emission control
- » VERT emphasizes on emission stability and elimination of high emitters of in-use fleets by new periodic technical inspection
- » VERT looks for holistic solutions respecting cost and transition periods based on health science
- » More than 400,000 vehicles worldwide (on-road and off-road) retrofitted with diesel particle filter systems
- » 75 VERT-certified DPF and SCR systems, substrates, FBC, PN-instruments and filter cleaning devices
- » Influential role in emission legislation: Switzerland, EU VI/6 and EU-NRMM Stage 5, China, Iran, Israel, Colombia, Chile

### Achievements of VERT

- » Particle filter pioneering for Swiss Tunneling (1994)
- » Particle Number limits PN in place of PM (2000)
- » Fuels without carcinogens for chainsaws (2001)
- » Legislation for highly toxic secondary emissions
- » PN for EU-type approval and field control (2008)
- » Particle Filters based on PN for Euro VI/6 (2011)
- » Particle Filter Retrofit and PN-Limits in Israel, Iran, China, Korea, Chile, Columbia and Canada
- » NPTI New Periodic Technical Control to detect high polluting Diesel and Petrol vehicles (2019)
- » Development of SCRT, 4WC, Intake Throttling for Regeneration
- » Exhaust after-treatment for e-fuel technology