INVITATION

THE PELOTON PROJECT:
WHERE TO POSITION LEADERS AND SPRINTERS?
HOW MUCH ENERGY WILL THEY SAVE?

Aerodynamic drag in the cycling peloton
Pelotons with 121 cyclists. Grids with 3 billion cells. Validation with wind tunnel tests
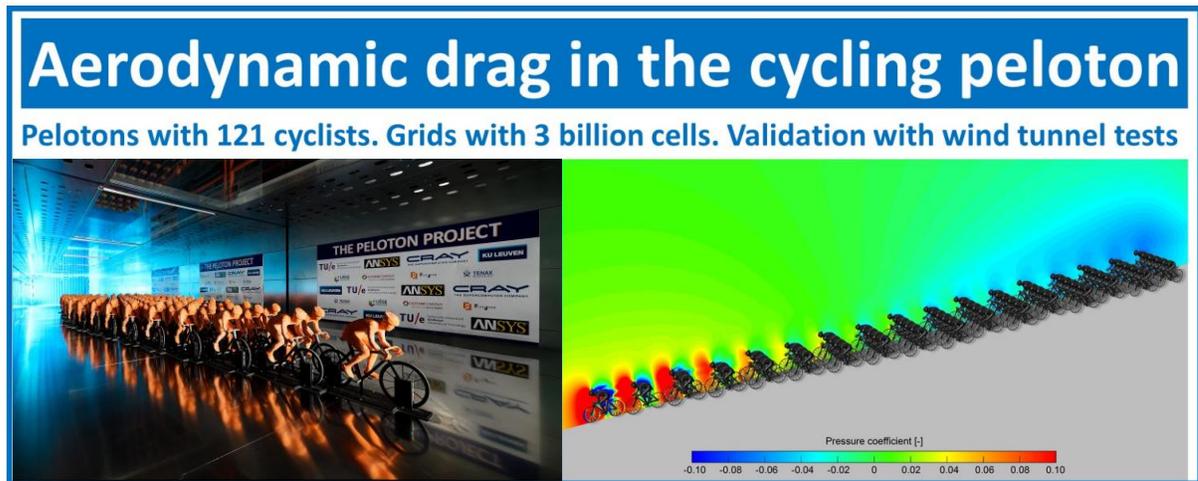
Professor Bert Blocken, Eindhoven University of Technology (TU/e) and KU Leuven is recognized worldwide for his thorough scientific investigations about elite cycling sport.

Validating the results obtained both by numerical simulation and by wind tunnel testing, his research helps to better understand, among others, which is the best position to adopt by a cyclist, the aerodynamic benefits provided by a following car or motorbikes, the aerodynamic interactions between cyclists, which are all conditions that can impact the result of the race ... Many elite teams, equipment manufacturers and experienced cyclists come to work with him to adjust their aerodynamic and position performances.

In a new 2018 project that has just been completed, Professor Bert Blocken conducted the largest numerical simulation ever done in the sport industry and cycling discipline, in partnership with ANSYS, the global leader in engineering simulation, and CRAY, supercomputer manufacturer. The goal was to understand the aerodynamic interactions in the **entire** peloton revealing unexpected results.

Press conference
Friday 29th June 2018 at 11:30AM
in the new wind tunnel at the Campus of Eindhoven University
of Technology, the Netherlands
Address: De Horsten 80, Eindhoven

AGENDA

11:30 – 12:00: Welcome

12:00 – 1:15 PM: Presentation of the results + Q&A

+   The role of engineering simulation to support elite athletes (10')
    by *Thierry Marchal, Global Industry Director Sport and Healthcare, ANSYS*

+   How super computer are giving the ultimate benefit when extreme performances is mandatory (10 ')
    by *Eric Aulagne, Sales Manager, CRAY*

+   Identify and validate the best position in a peloton calculated and revealed by science (30')
    by *Prof Bert Blocken, Eindhoven University of Technology and KU Leuven*

1:15 – 2:00 PM: Networking lunch + visit of the wind tunnel with models

2:00 – 3:30 PM: Interviews, photos and movie recording

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About TU Eindhoven: Eindhoven University of Technology (TU/e) in the Netherlands is a research university specializing in engineering science & technology. Our education, research and knowledge valorization contribute to science for society (solving the major societal issues and boosting prosperity and welfare), science for industry (the development of technological innovation in cooperation with industry) and science for science (progress in engineering sciences through excellence in key research cores and innovation in education). The research group Wind Engineering & Sports Aerodynamics led by Professor Bert Blocken of the Department of the Built Environment focuses on numerical simulation with Computational Fluid Dynamics (CFD), wind-tunnel testing and field measurements for fundamental and applied research in buildings and city aerodynamics and sports aerodynamics. Visit http://www.urbanphysics.net for more information.

About KU Leuven: KU Leuven in Belgium is dedicated to education and research in nearly all fields. Its fifteen faculties offer education, while research activities are organized by the departments and research groups. These faculties and departments, in turn, are clustered into three groups: Humanities and Social Sciences, Science, Engineering and Technology (SET), and Biomedical Sciences. Each of these groups has a doctoral school for its doctoral training programmes. KU Leuven boasts fourteen campuses, spread across 10 cities in Flanders. The research group Computational Fluid Dynamics for the Built Environment led by Professor Bert Blocken of the Department of Civil Engineering focuses on numerical simulation with Computational Fluid Dynamics (CFD), wind-tunnel testing and field measurements for fundamental and applied research in sports, buildings and city aerodynamics. Visit www.urbanphysics.net for more information.

About ANSYS: ANSYS is the global leader in engineering simulation. We bring clarity and insight to our customer's most complex design challenges through the broadest portfolio of fast, accurate and reliable simulation tools. Our technology enables organizations in all industries to imagine high-quality, innovative and sustainable product designs that have an accelerated time to market. Founded in 1970, ANSYS employs almost 3000 professionals, more than 700 of them with PhDs in engineering fields such as finite element analysis, computational fluid dynamics, electronics and electromagnetics, embedded software, system simulation and design optimization. Headquartered south of Pittsburgh, U.S.A., ANSYS has more than 75 strategic sales and development locations throughout the world with a network of channel partners in 40+ countries. Visit www.ansys.com for more information.

About CRAY: Cray combines computation and creativity so pioneers in science, technology, and industry can look beyond the everyday and engineer the unprecedented. From its founding through today, Cray has stood on the frontier of technological change. For visionaries standing on the frontier of AI, Cray's comprehensive portfolio of advanced computing, storage, data analytics and artificial intelligence solutions give them the power to run AI-related applications of any size in the fastest time possible. Today, AI leaders are using Cray's machine and deep learning technologies on ML/DL problems including autonomous technologies, medical imaging, seismic analysis and severe weather prediction. For those who keep asking what if, why not and what's next, Cray supercomputing technology powers those who aspire to turn insight into application and discovery into disruption. Go to www.cray.com for more information.