



## Virtual Engineering ... ... Technical Consulting & Engineering Services

### The Engineering Specialist: Customer Project Support to Provide Solutions for Rotating Machinery, Plants, Vehicles

**Laschet Consulting** is specialist in computer simulation technology. Our engineering services are well known in a wide industrial and automotive field for more than 40 years. Our engineers solve problems to optimize the dynamic behavior of rotating machinery, any kind of transmissions in machines, vehicles (cars, trucks, special vehicles), ships, and aircrafts. For that kind of engineering services the calculation of torsional and lateral vibrations is one of the most important engineering steps. The consultancies incorporate the interpretation of all computer and test results. What we propose: a catalog of possible solutions to improve the system behavior of the rotating parts of the machine or vehicle power-train. Count on our "Team of Excellence" and on our "Premium Service".

All elaborations are communicated with the customer to obtain the best engineering solution with reference to the current project. And this communication is not limited to meetings at our office, but can also be expanded within an internet supported community worldwide.



We are an internationally operating company. That is why we offer and prefer customized **web based consulting & training sessions** (online meetings/conferences). In this case we send you a special invitation by Email, so that many participants can join such a session worldwide and see exactly the same presentations (Video Clips, Powerpoint, Office, PDF) while discussing details via phone and sharing documents among the participants of the session. Such an online video-audio session is a real "international conference & communication platform". **Laschet Consulting** can organize such a session even as an efficient **remote training course "at your desktop"**.



Please ask us for further information to learn more about our **Consulting Methods** concerning YOUR application, and how it is a real value of benefit for YOU.

Further information on our engineering services and consulting activities are also available at our web site [www.laschet.com](http://www.laschet.com). We like to get in touch with you.



Online Trainings  
Online Short Courses



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## ***Virtual Engineering ... ... the Predictive R & D Process***

***These are the chances to be very effective and efficient during the R & D steps.  
Use our engineering services just from the beginning.***

Please be aware of the advantages of the virtual development process („**VIRTUAL ENGINEERING**“):

- faster development process and lower R&D costs
- early detection of critical and weak points or technical restrictions
- significant quality improvement
- achievement of fundamental know how before finishing the product development (prediction of technical characteristics); systemizing the development process
- comparison of various engineering solutions and evaluation of different configurations; enabling alternative development steps in good time in advance
- minimizing the test periods and commissioning procedure (reducing the test series while improving the test quality)
- efficient team work when providing digital CAE models and the corresponding results
- better understanding of acquired experiences (measurements, testings, calculations, observations and subjective evaluation); objective access to the results
- generating special evaluation functions for an objective grading of the system behavior (OSE = Objective System Evaluation)
- reasonable basis for strategic decisions in the product development process
- application of powerful simulation tools while keeping the model complexity limited („*Learning by experience from the past, secure planning for future projects*“)

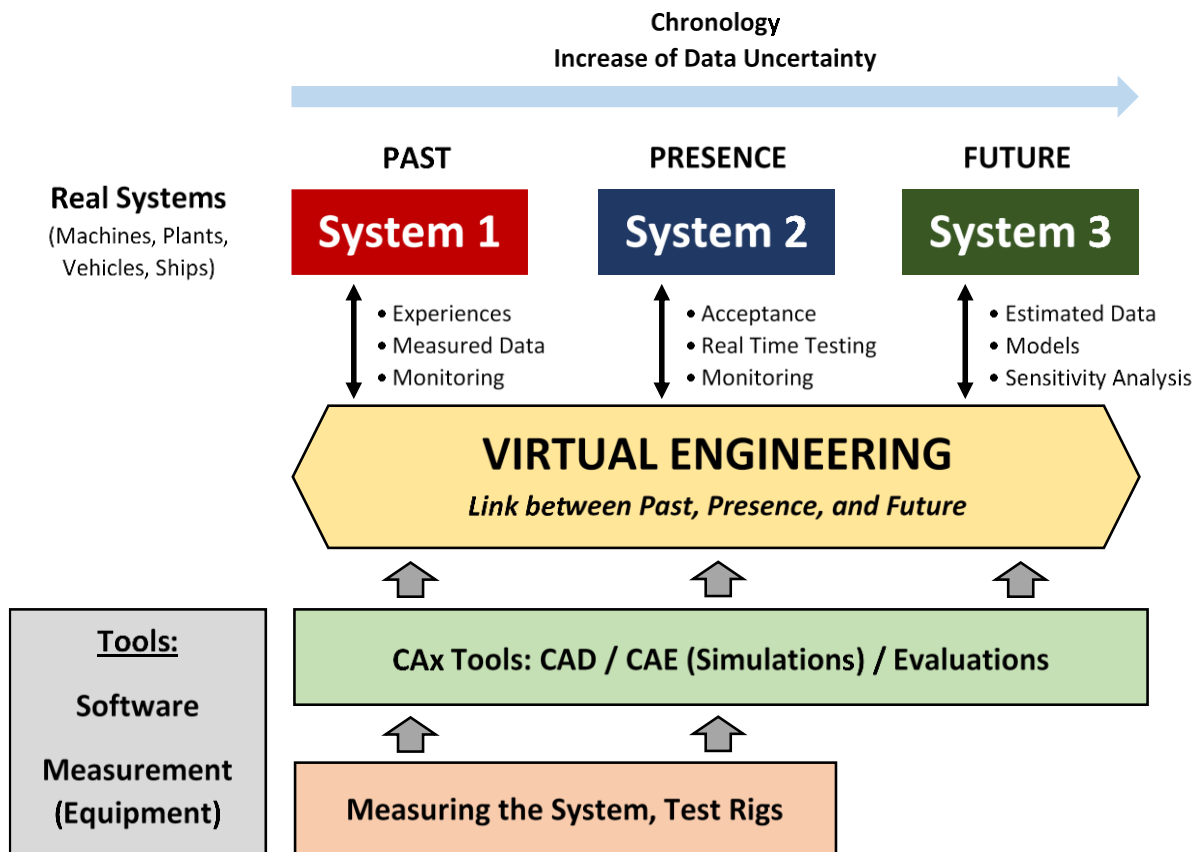
Use the engineering services by **Laschet Consulting** to create and realize your own virtual engineering environment: this is the so-called „**Virtual Engineering On Demand**“.

We would like to get into contact with you. Ask for a non-binding customer presentation realized by an online conference.



# Virtual Engineering ...

... Presentation of a Concept for the Future  
 ... Engineering Service Offered by "Laschet Consulting"



**• Support of the R & D Process**

- early detection of possible **critical speeds** and **resonance problems**
- evaluation of **different powertrain configurations** to determine the “best” set-up
- significant **quality improvement** with simultaneous **reduction of development time**

**• Support of Commissioning, Predictive Maintenance, Machine Diagnosis**

- understanding **field testing** during **commissioning** using **vibration simulation tools**
- fine tuning of the CAE model, improved **machine diagnosis & conditioning monitoring**

**• Support of Troubleshooting, Failure Analysis, Root Cause Analysis**

- improved **troubleshooting & root cause analysis** considering existing measurements
- **measurement and computer simulation “in dialogue”** for **fast problem solving**