





## **BENEFITS AT A GLANCE**

- Measurement in highly transient operation
- Best suited for exploring injection strategies
- Find critical emission cycles
- Engineering mixture formation
- Evaluate flame propagation
- Evaluate thermal risk
- Detect potential for knock limit improvement
- Detect root causes of irregular combustion
- Cold start / tip-in / tip-out emission evaluation
- Services covering the whole Visiolution range
- Perfect interface to existing AVL indicating chain

## AVL VISIOLUTION SYSTEMS OPTICAL ACCESS TO THE ENGINE

With the help of optical measuring methods, deep insights into the complex processes of fuel mixture and combustion beyond the findings of the pressure indicating method can be achieved. AVL Visiolution technology helps users understand the whole process in detail and therefore provides the right tool for improving performance with regard to fuel consumption, mixture formation, exhaust emission and engine power.

The system is based on indicating in the combustion chamber. AVL Visiolution technology provides the perfect tool for flame evaluation, thermal radiation and injection monitoring, making complex processes more clear.

The formation of pollutant emission in transient operation becomes understandable. Engineering duties are finished in record time and with utmost precision.

## MEASURING PRINCIPLE

Visioknock / VisioFlame / VisioTomo: Special spark plugs or head gaskets equipped with glass fibers allow optical access to the combustion chamber. This allows observation of flame propagation, localisation of knock and access to combustion patterns.

VisioFEM: Cycle-precise, cylinder-specific recording of phenomena that contribute significantly to pollutant emissions.

VisioScope: Carburetion, fuel injection, soot formation and temperature distribution are recorded by endoscope and camera.