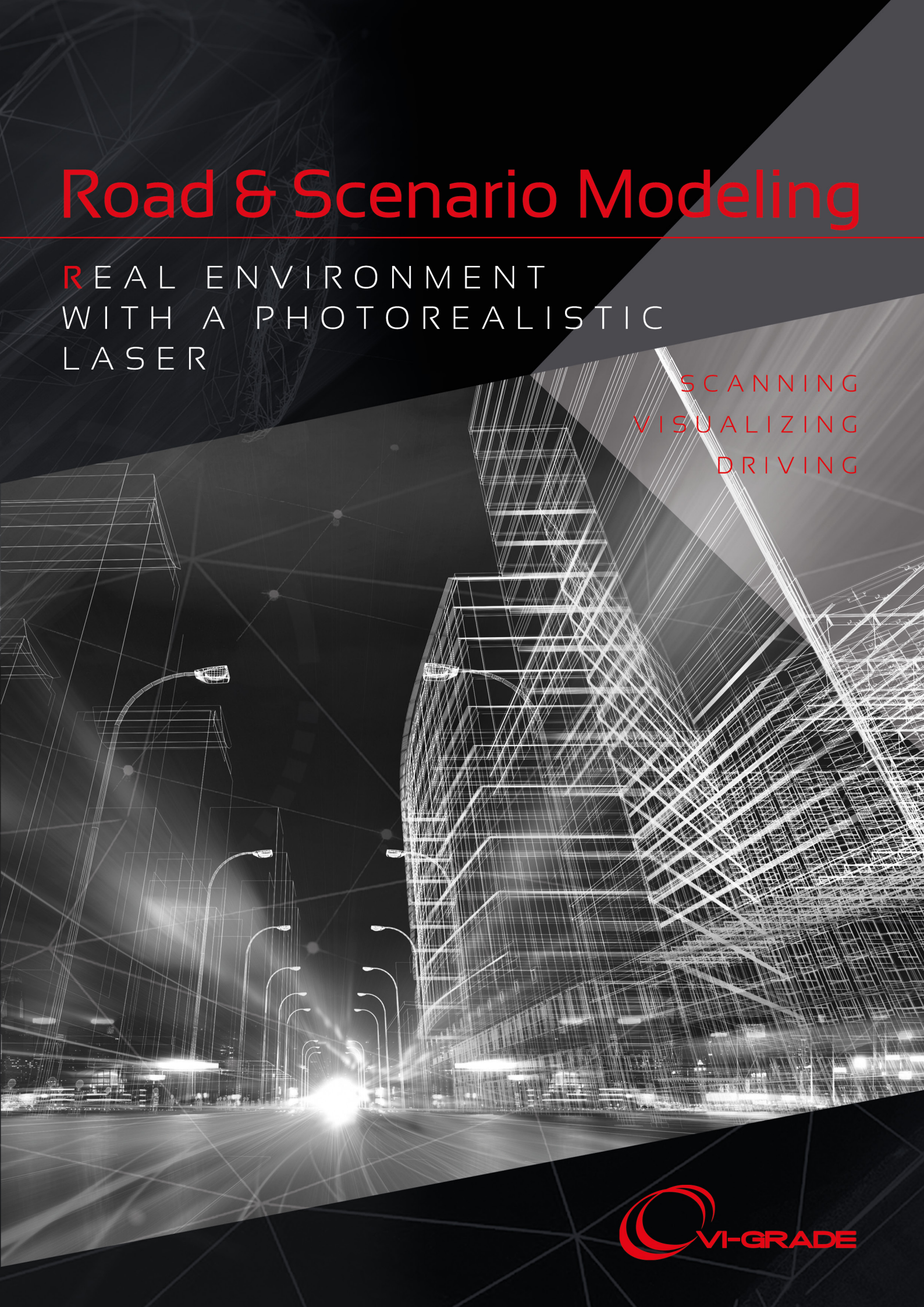
Road & Scenario Modeling

REAL ENVIRONMENT
WITH A PHOTOREALISTIC
LASER

SCANNING
VISUALIZING
DRIVING



VI-GRADE

Challenges

TAKE THE EASIER ROAD

To design and produce cars you build prototypes and perform physical tests of efficiency and safety. The tests, however, can prove expensive, sometimes dangerous and difficult to reproduce under the same conditions.

The future has begun and now, in order to design and build ever better cars, it is possible to take a new road. **Simpler, more direct, more affordable**: driving simulators that generate very **accurate models of vehicles, active systems, tire models, controllers** and other vital automotive components and subcomponents.

To get started it is essential to have a detailed road model that gives an extremely realistic graphical rendering of the environment, in order to guarantee an immersive experience for the driver. This is the challenge of tomorrow and VI-grade will help you face it advantageously.

NEED OF ROAD MODELS

Create detailed road models to guarantee reliable vehicle dynamics and realistic driver feeling.

NEED OF REALITY

The accurate representation of real-world environment makes a fully immersive driving experience possible

NEED TO SHARE

Multiple engineering teams can seamlessly use our road models at different phases of the development process (from vehicle dynamics simulation on workstations to applying them on the driving simulator).

Looking for the best driving experience ever

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Solution

BE REALISTIC!

You don’t need to build a prototype to test your projects. Road & Scenario modeling by VI-grade will help you bridge the gap between testing and simulation by providing a **turn-key service to laser scan, model, texture and deliver photo-realistic 3D models of virtually** any road profile or tarmac, no matter if it is a country road, a racetrack, a city area or an entire proving ground, as well as the surrounding environment.

GOALS

- Accurate model of laser-scanned roads including: roughness; elevation; slope; bumps; holes.

- Photorealistic model of the environment featuring all details: trees; lines; curbs; grass; buildings.

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Benefits

THE EMOTIONS OF REAL DRIVING

VI-grade driving simulators enable planners and designers to live a real driving experience with the vehicle they are developing. Sports car pilots, car manufacturers, component manufacturers, universities, research and development institutes will all benefit from using VI-grade simulators.

ACCURACY

- Precise laser roads scansions to allowing accuracy in interactions between road and tyres..
- Detailed models of the environment including road signs, tarmac color changes, realistic light.

IMMERSION

- Feel the feedback of the road, to sense real drive sensations.
- Full experience photorealistic models of the surroundings.

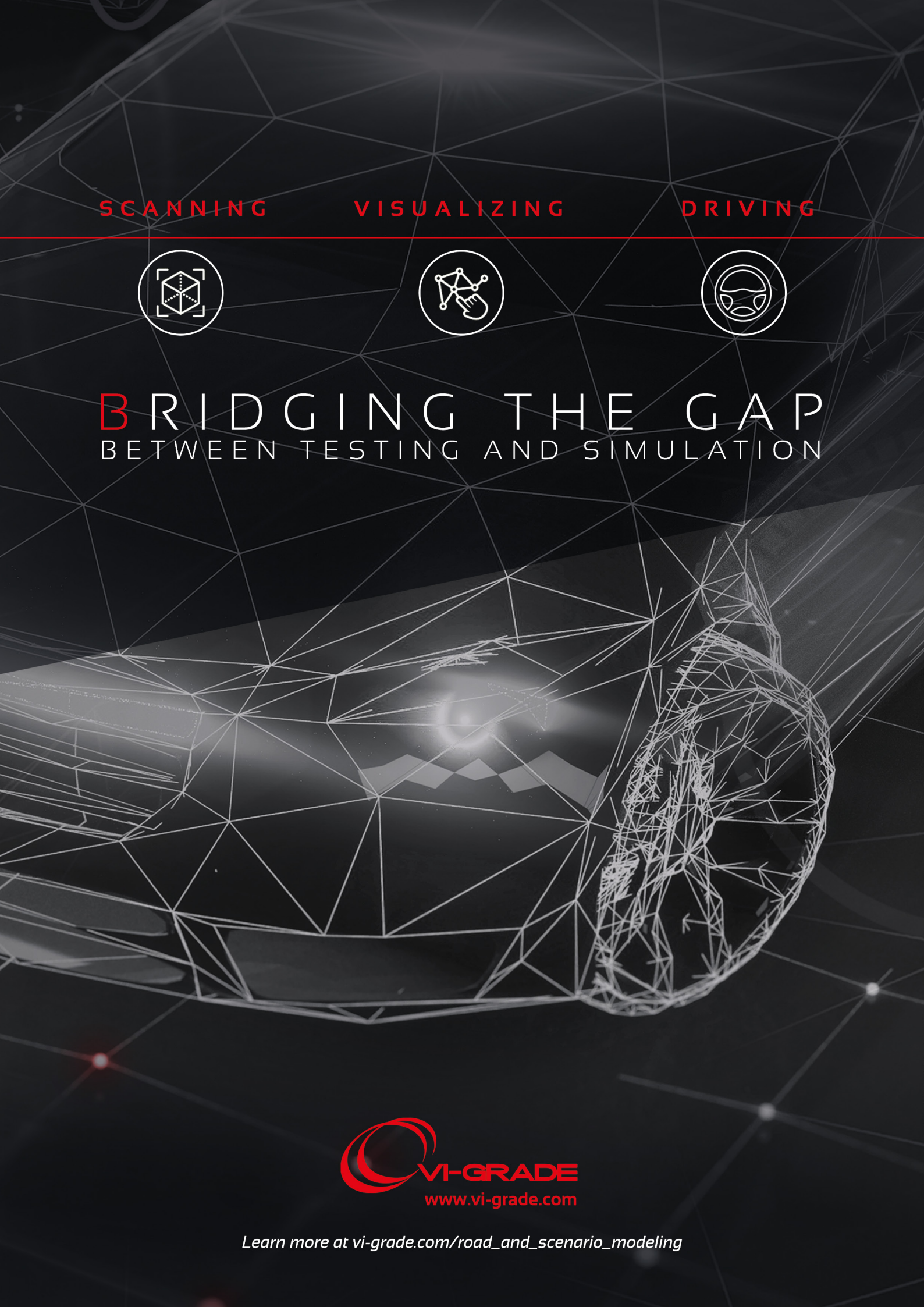
INTEGRATION

- Workstation and driving simulator application use the same files and models
- All models are designed to be driven in real-time and don't need a special version for simulator applications.

Road & Scenario Modeling help customers bridge the gap between testing and simulation by providing a turn-key service to laser scan, model, texture and deliver photorealistic 3D models of virtually any road profile and surrounding environment

Are you ready to evolve with Road & Scenario Modeling?

"We worked together with VI-grade in order to have our set of Proving Ground laser scanned and modelled so that we could use them both off-line and on the driving simulator. Off-line we normally use rod data files or ride, comfort and durability studies and then on the driving simulator we use our Proving Ground digital twins for a variety of different applications: vehicle dynamics, ride&comfort, control systems set-up and development. This approach allows our CAE engineers to work very closely with our test drivers right from the start of the development cycle and it allows us to save up to 50% of the development time."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