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GG INTERNATIONAL

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What is UNDERBOLD-POD30®

A ground and base course stabilizer for road construction that strengthens the foundation and surface layers of roads.

- It improves soil properties,
- enhances load-bearing capacity, and
- reduces the risk of road damage.

This product ensures a more durable, stable, and longer-lasting road infrastructure

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Ingredients

- A purely organic mixture of waxes and oleine, a colorless to yellowish, oily, water-insoluble liquid in many vegetable oils.
- 100% biologically eco-friendly with proven environmental sustainability
- Enthused with Nanotechnology, which has a significant role in enhancing or improving its effectiveness as an ideal ground and base course stabilizer for road construction

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30% Cost Savings

- Reduction in additional construction materials, like crushed stones, gravel, or bituminous materials.
- Long logistics for materials are no longer required.
- The use of machines and workers is reduced, shortening project execution time.
- The completed surface is more durable, saving material, time, and personnel, which can reduce overall costs by up to 30% on-site

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What are the Benefits?

- Treated soil becomes hydrophobic and agglomerated, resulting in **enormous compressive strength** by adding bonding agents (3-5% cement).
- The UNDERBOLD-POD30® mixture significantly enhances the treated soil's **resilience against heavy and aggressive influences**.
- **Water tightness** is achieved almost entirely through the fine distribution of wax particles, which prevent capillary formation and reduce crack formation. Consequently, **damages due to water ingress are substantially minimized**, and the lifespan of the base course is generally extended.

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1

Cement Spreader

16 m³ = 25 t capacity

2

Roller

16 t Operating Weight

3

Recycler

2.4 m working width

4

Tanker

10,000 Liter capacity

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1

PREPARATION of the surface to be treated with a Motor Grader provides a rough and fine slope formation level.

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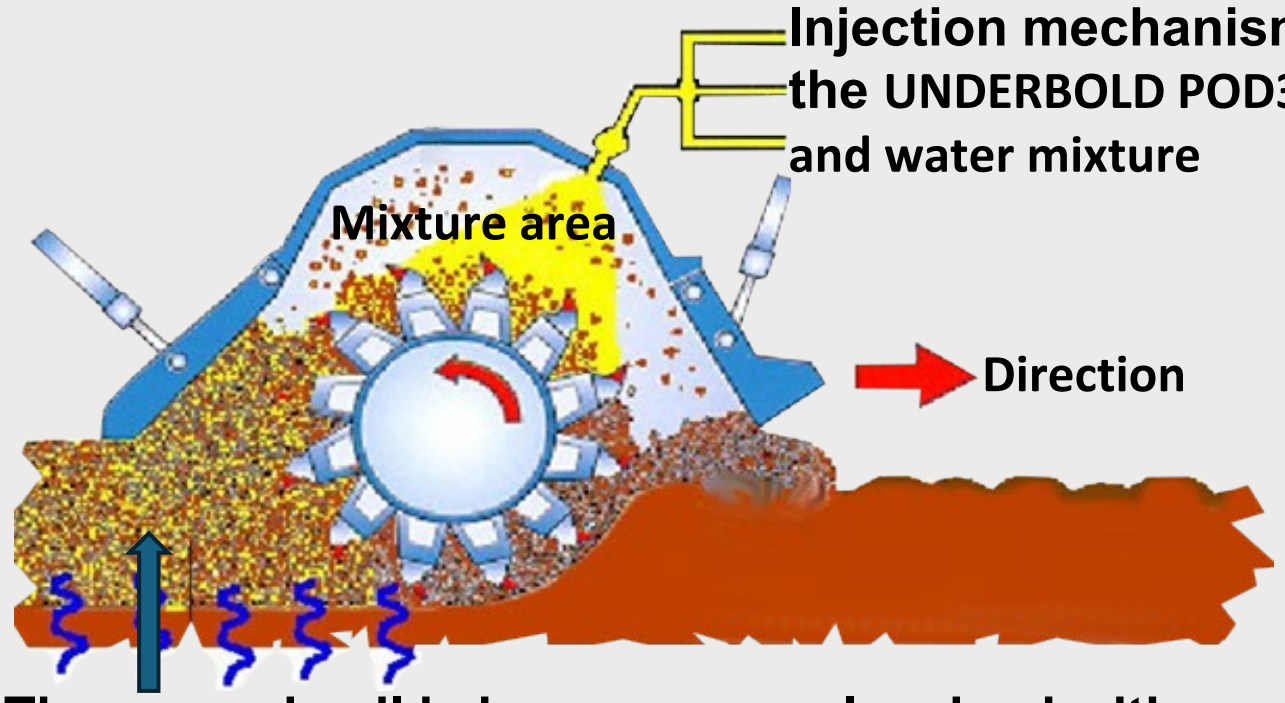
2

BLENDING the UNDERBOLD POD30® mixture into the soil



The ground soil is homogeneously mixed with the UNDERBOLD POD30®

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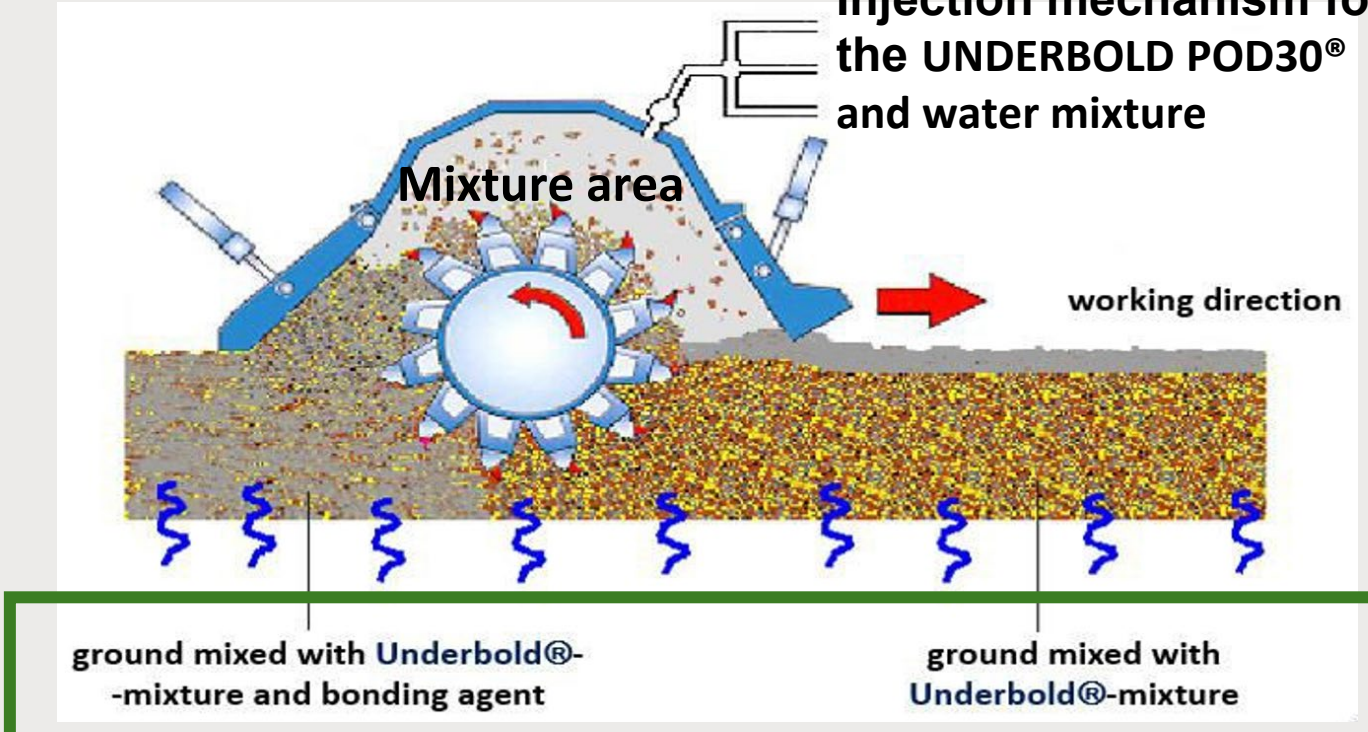
2 (continued)

BLENDING the UNDERBOLD POD30® mixture into the soil



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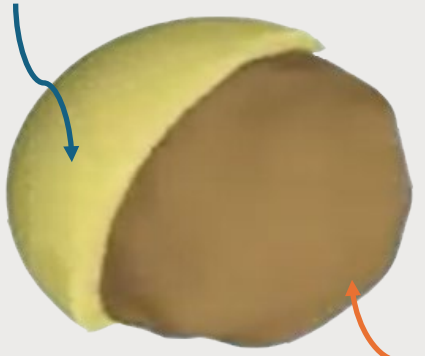
2 (continued)

BLENDING the UNDERBOLD POD30® homogeneously, the bonding agent settles around and in between the soil

UNDERBOLD POD30® mixture



Blown-up image of soil grain covered in bonding agent

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2 (continued)

BLENDING the UNDERBOLD POD30® mixture into the soil

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2 (continued)

BLENDING the UNDERBOLD POD30®

in the field

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2 (continued)

BLENDING machinery

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3

CEMENT: Spreading

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3

CEMENT: milling binder

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3

CEMENT: Milling

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3

CEMENT: Milling

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4

COMPRESSION

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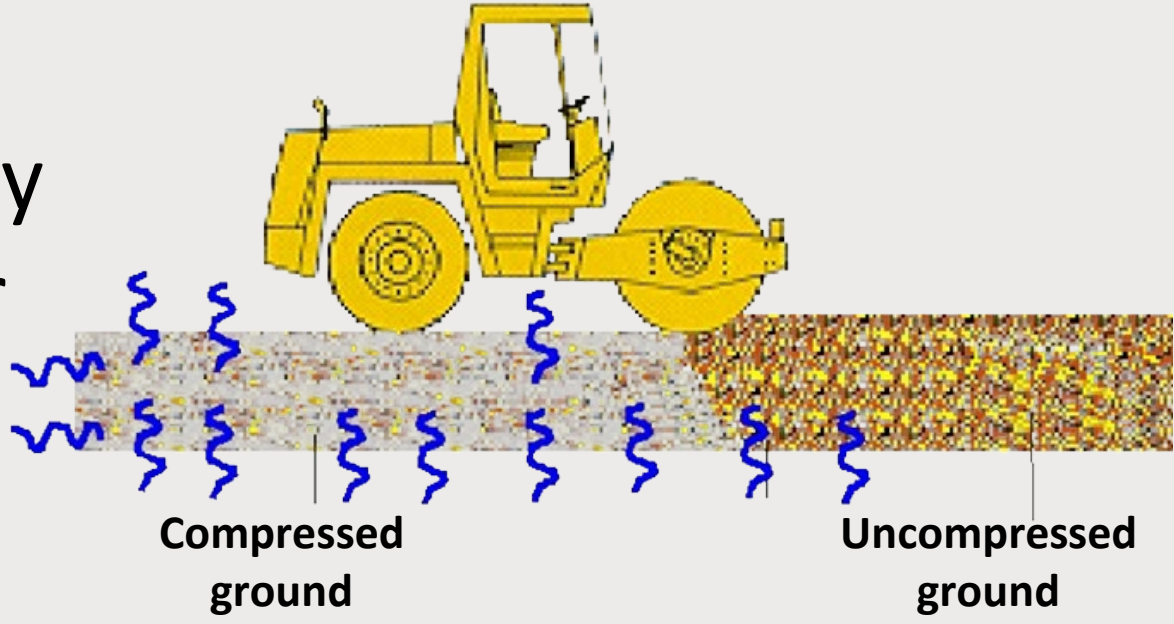
4

COMPRESSION:

Any remaining humidity is delivered into the air and soil (hydrophobicity) after the compression process.



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4

PROFILING:
After the compression process, the grader constructs the profile.

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PROCESSING:
Undertake compression of the treated surface optimally with a minimum roller of 16-20 tonnes.

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EXAMPLES:

Mercedes-Benz area in Germany

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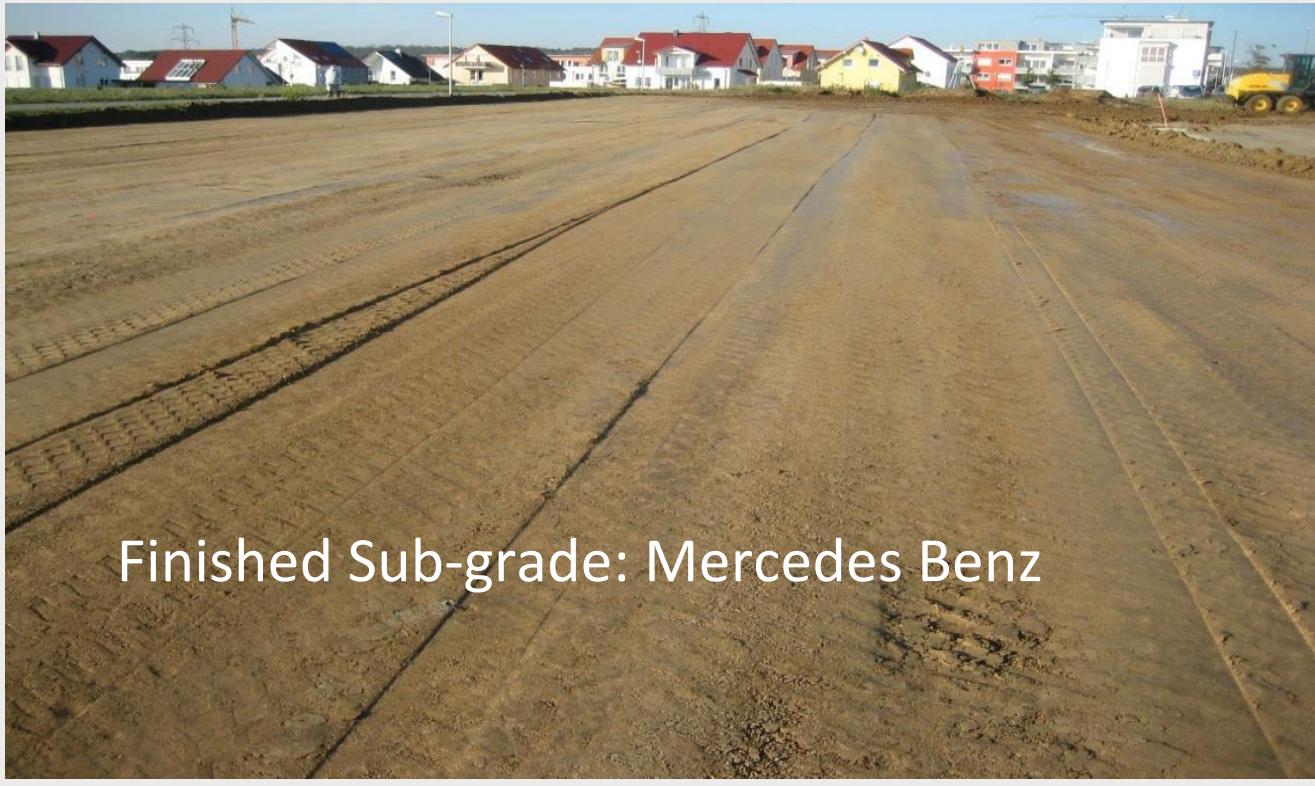
EXAMPLES:

Mercedes-Benz area in Germany



Finished Sub-grade: Mercedes Benz

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EXAMPLES:

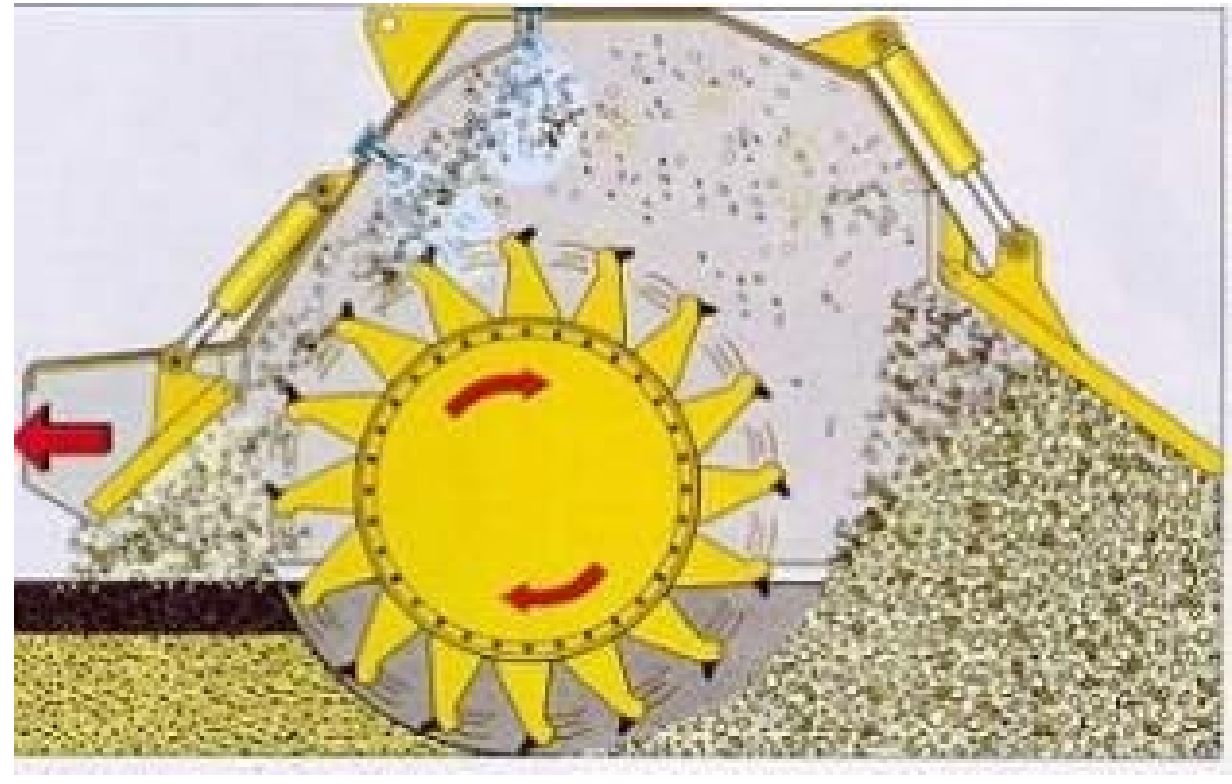
Mercedes-Benz area in Germany

Finished Parking Area: Mercedes Benz

UNDERBOLD®

One main feature is to recycle roads without removing the existing asphalt

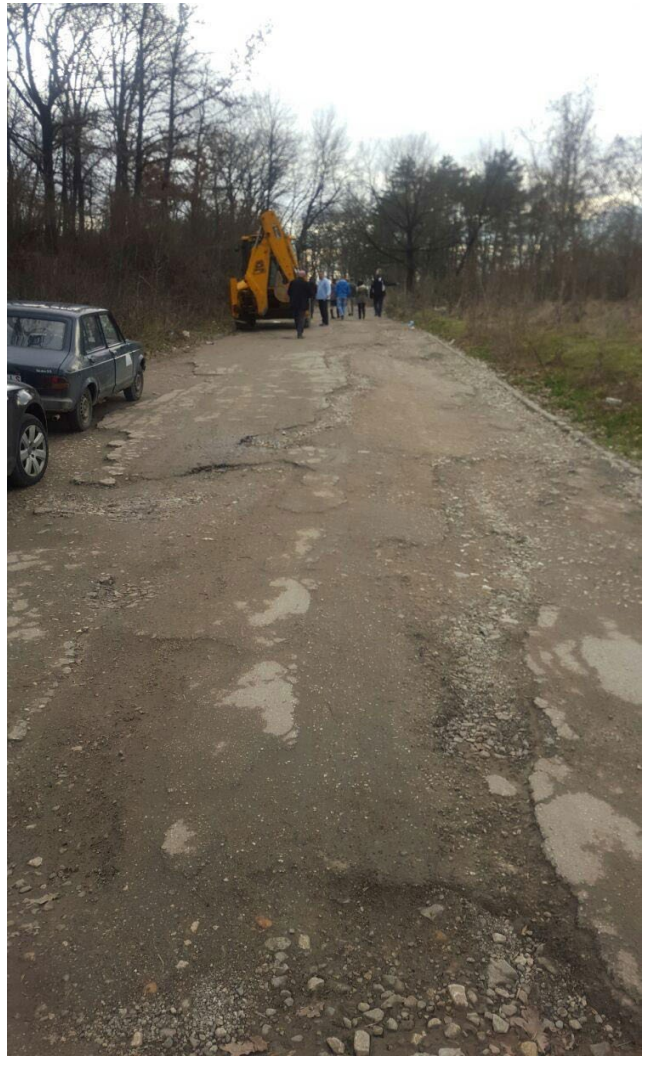
… with asphalt up to 10 cm !!



Milling machine in progress with asphalt

UNDERBOLD-POD30®

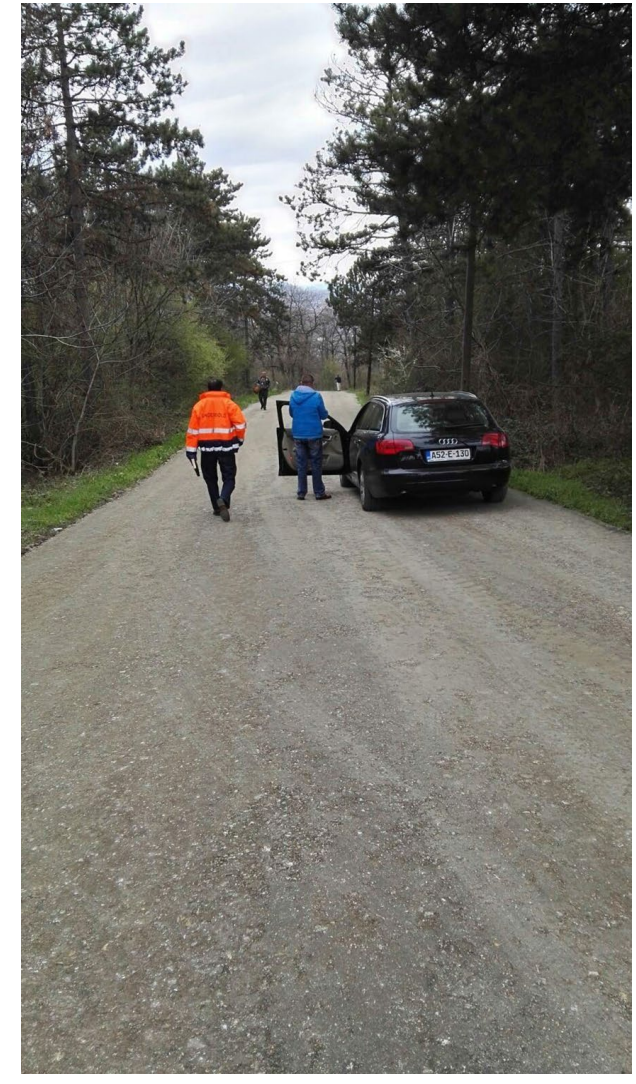
Result



road before

and

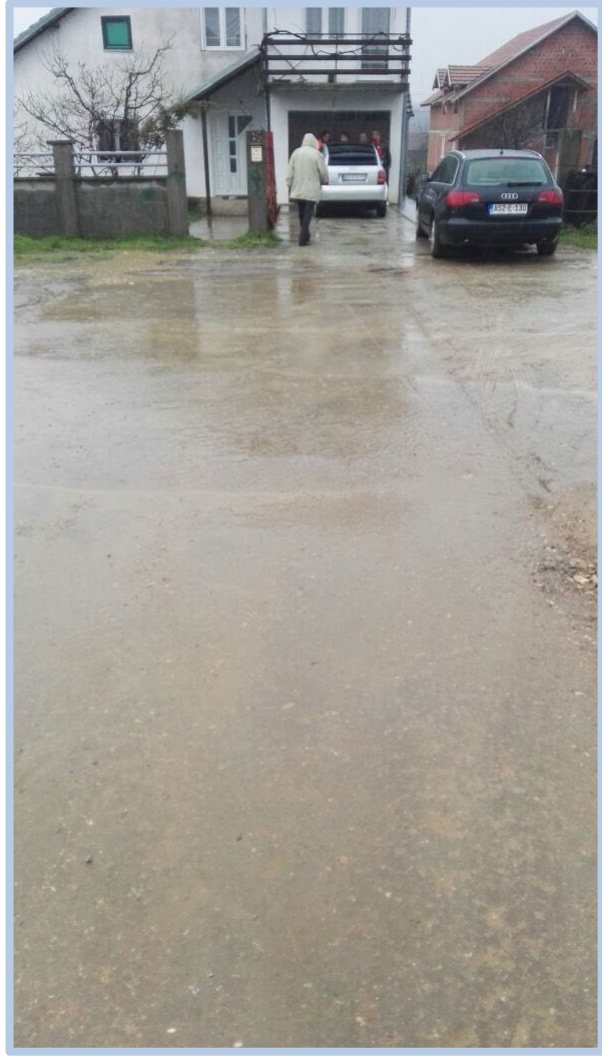
road after
12 hours later



Clay-Subgrade is finished-ready for asphalt

MAXIMUM WATER RESISTANCE

finished road in Serbia



Projects

Desert sand- Oman

Liberia Buchanan

Russia

Temperature range

German GreenTec Ecologic

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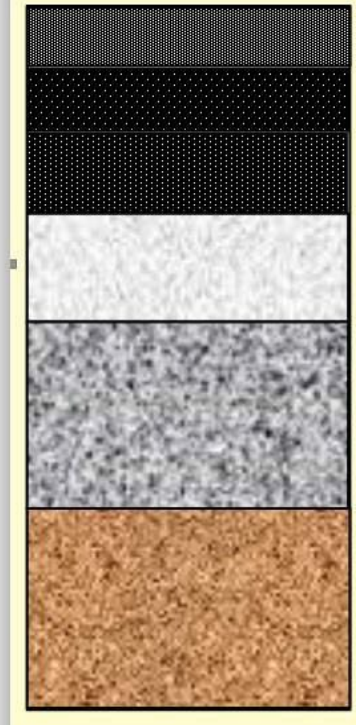
Pavement Structure in Cross-Section

Road construction in cross-section

Conventional



5 cm Asphalt – wearing course

7,5 cm Asphalt – base course

7,5 cm Asphalt – base course

15 cm (Sub base)
Road base Type "A"

30 cm (Sub base)
Hard Fill Type "B" Desert Fill
or
Dredged Sand

(Sub base)
existing or Dredged Sand

with UNDERBOLD

5 - 10 cm toplayer with PR-Plast

1 - 2 cm primer and split

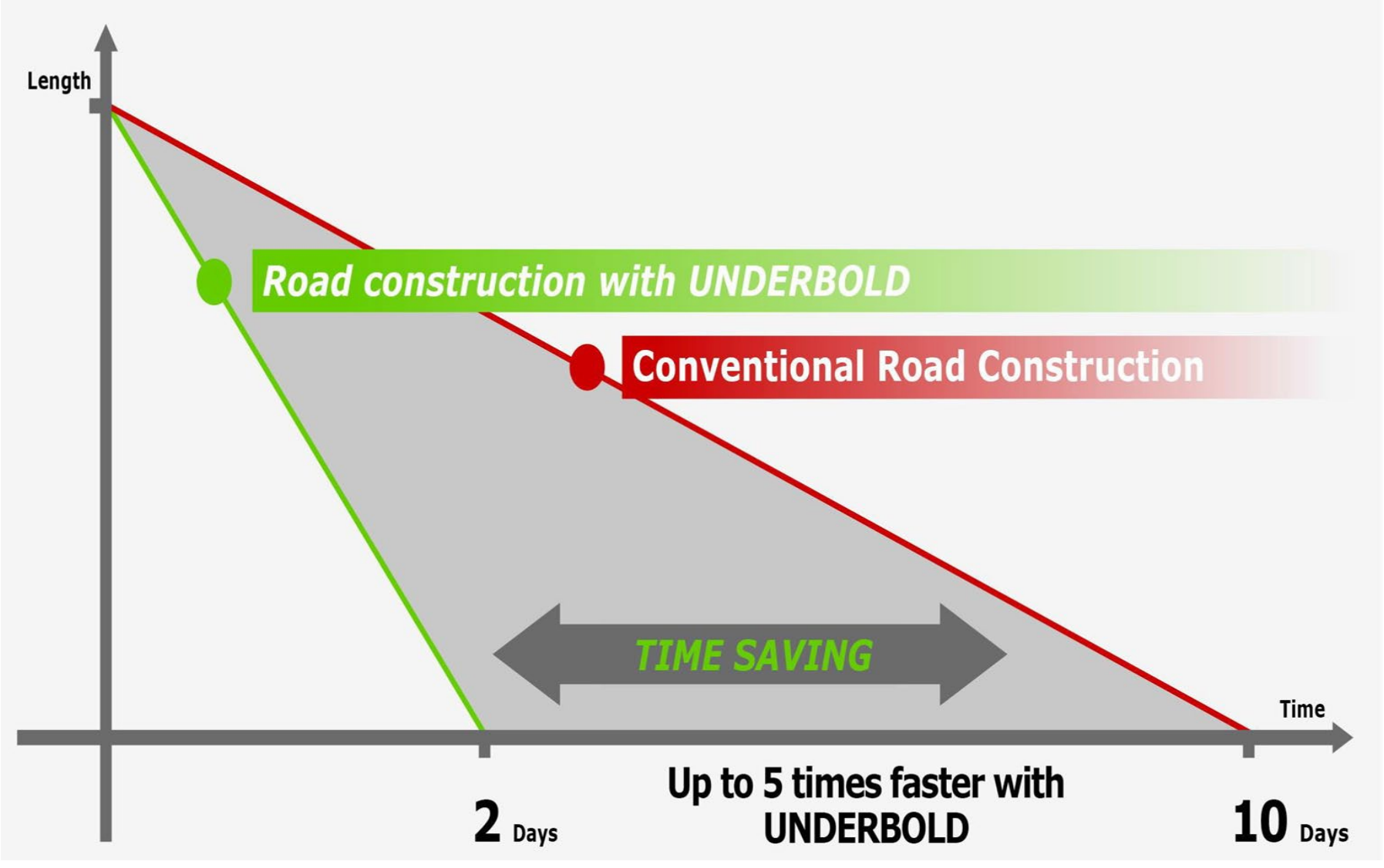
40 cm
UNDERBOLD

savings through

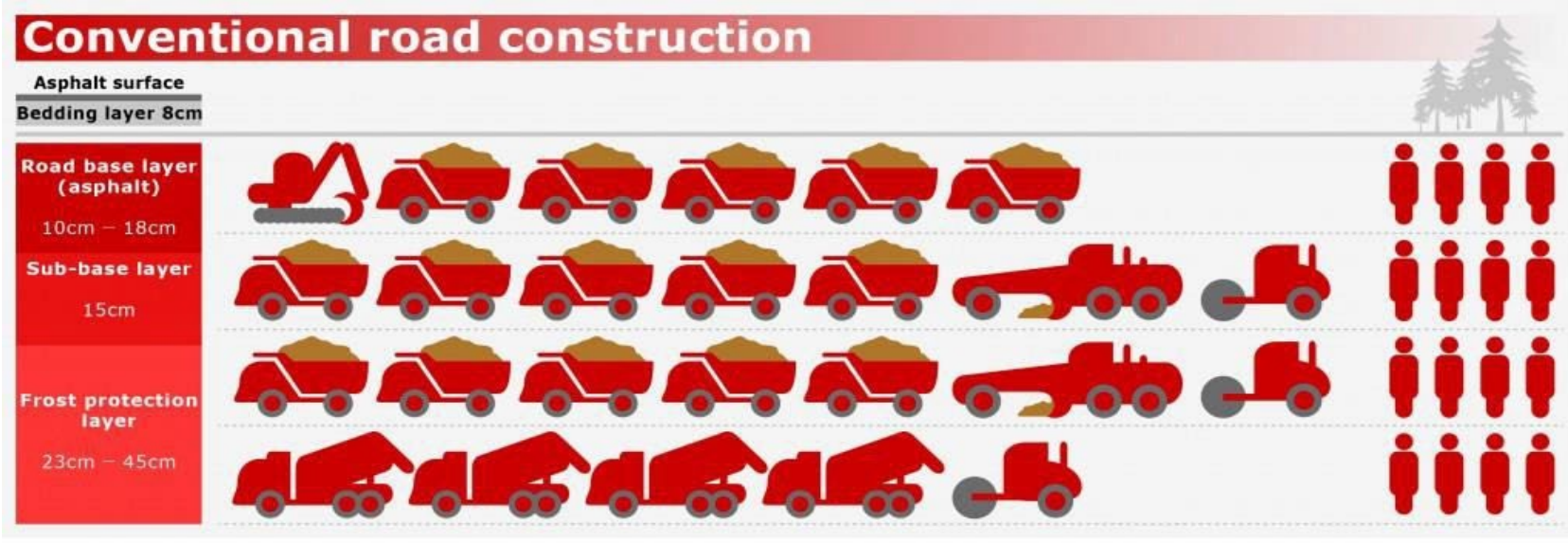
UNDERBOLD

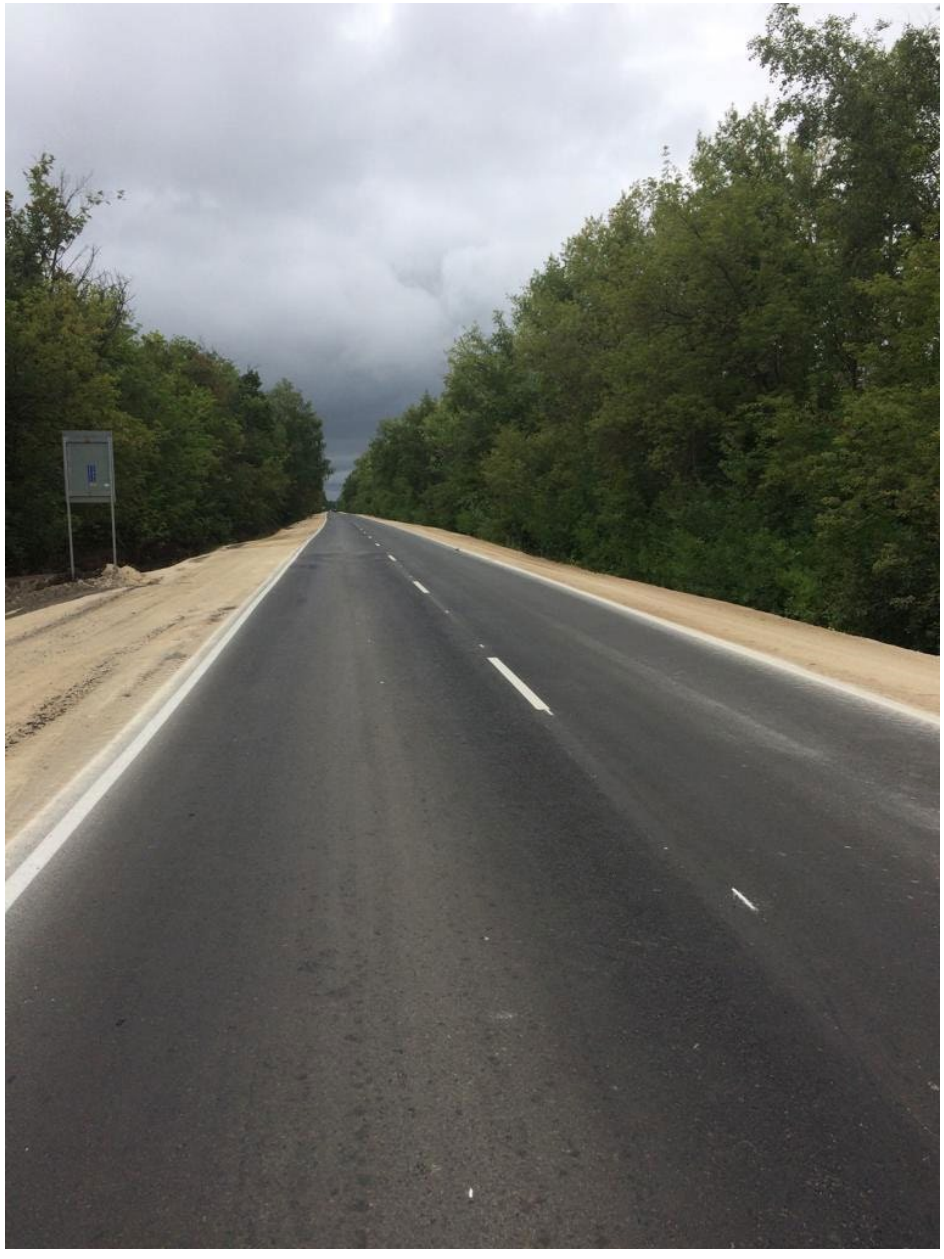
time and material

Time saving


Length
Road construction with UNDERBOLD
Conventional Road Construction
TIME SAVING
Time
2 Days
Up to 5 times faster with UNDERBOLD
10 Days

Cost savings + environmental impact through less logistics





Finished road after starting our work 2 weeks ago

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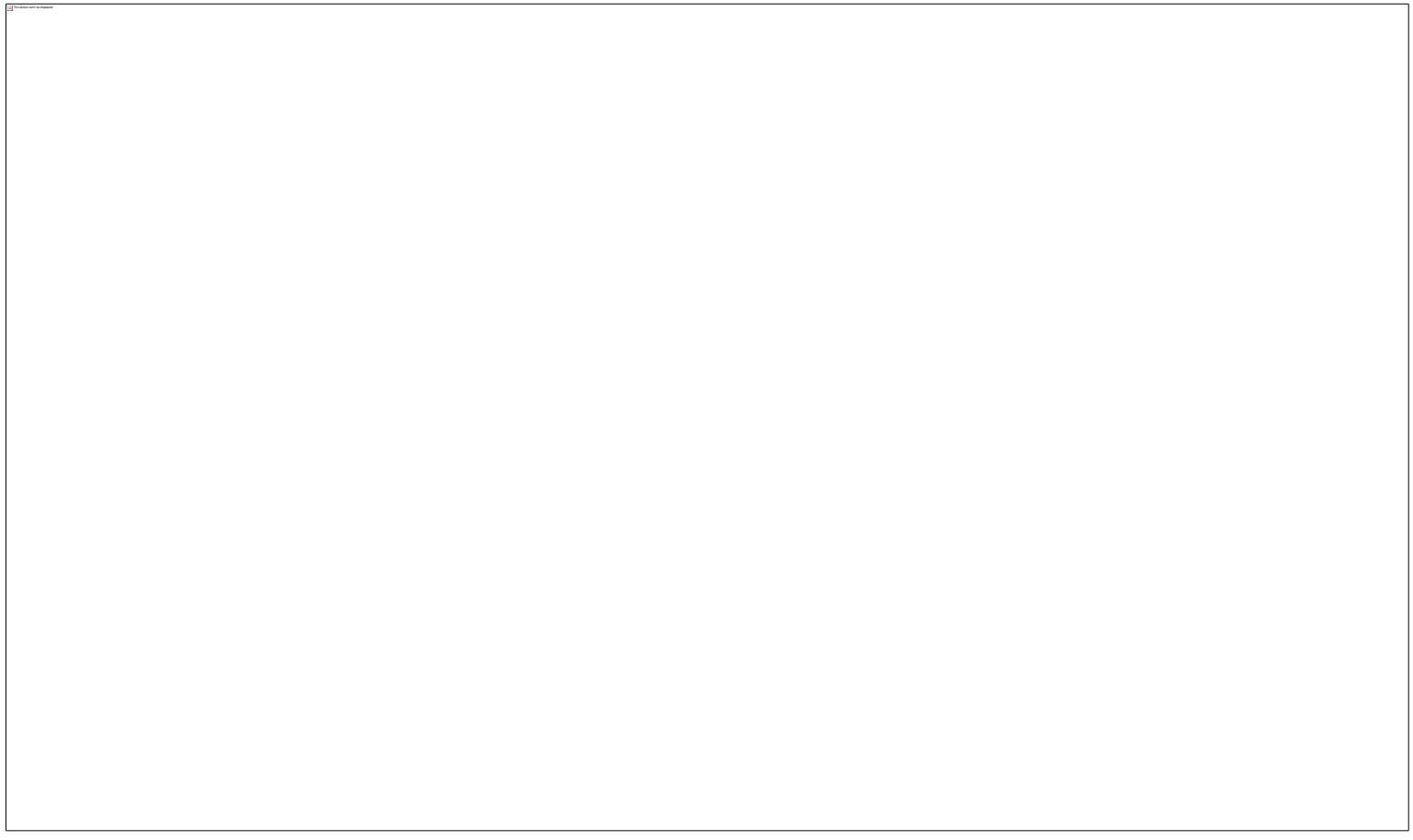

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