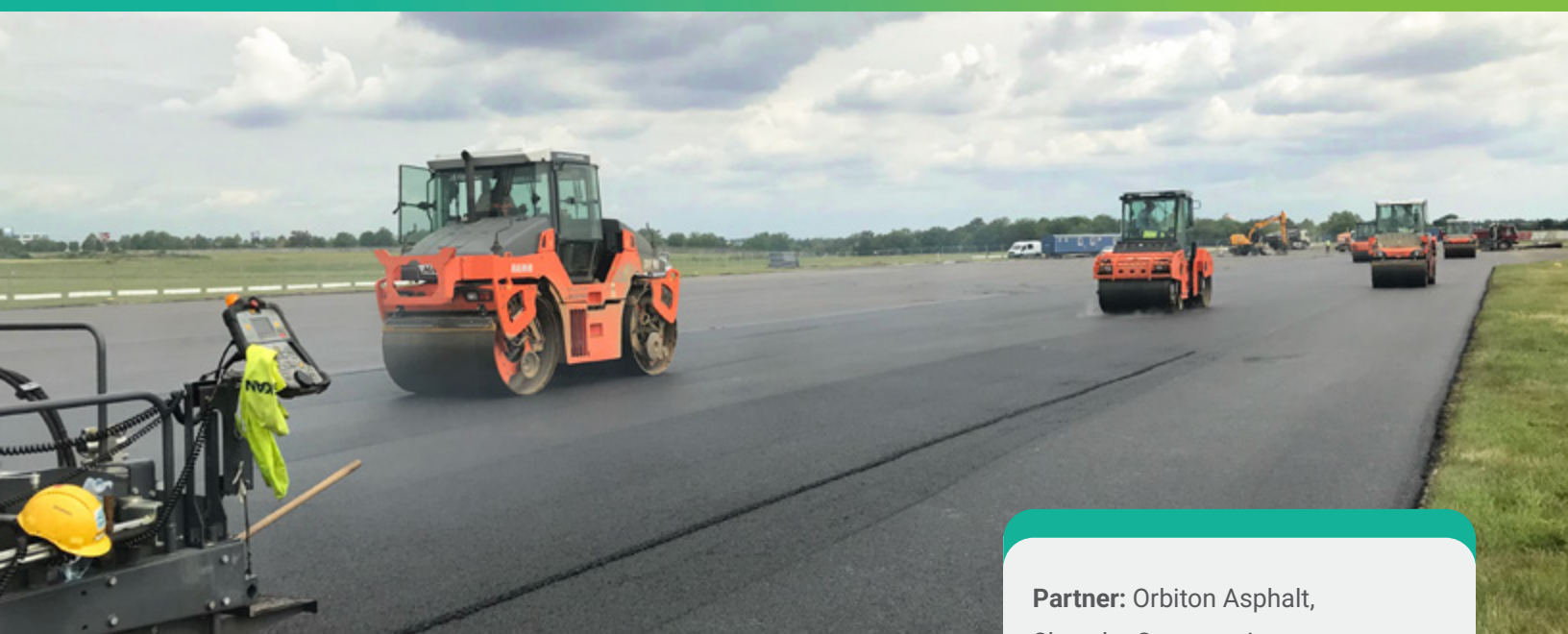


RETHINKING RUNWAY PERFORMANCE: BUILDING PAVEMENTS FOR THE NEXT GENERATION OF AIR TRAVEL



As global air travel rises, airport infrastructure must perform under growing pressure without disruption. At Václav Havel Airport in Prague, pavement modernization became an opportunity to move beyond traditional repair and toward a more durable, performance-based runway solution.

CHALLENGE

Airports operate in a constant state of demand, and Václav Havel Airport in Prague faced rising traffic volumes combined with pavement deterioration. The runway surface needed to withstand heavy and repetitive aircraft loads while resisting cracking, rutting, and fatigue. It also had to perform reliably in harsh weather conditions, including water and frost exposure, and be installed while the airport remained operational. This reflects a broader aviation challenge: airports worldwide are balancing growing demand with aging infrastructure and materials that were not designed for today's operational intensity.

Partner: Orbiton Asphalt,
Skanska Construction

Market: Paving

Product(s): HiMA™

Highlights

- Supports continuous airport operations during critical pavement rehabilitation.
- Improves resistance to cracking, rutting, fatigue, water, and frost.
- Combines stone mastic asphalt (SMA) structure with HiMA-enhanced elasticity and durability.
- Helps reduce disruptions, life cycle costs, and structural repair needs.
- Demonstrates a scalable model for future-ready airport infrastructure.

SOLUTION

Rather than applying a traditional repair, the Prague project adopted a performance-based approach using stone mastic asphalt (SMA), combined with a highly modified asphalt binder, incorporating advanced polymer technology. Approximately 300 metric tons of SMA using Orbiton HiMA™ 25/55-80 bitumen grade were installed to rehabilitate the runway surface. The material combination was selected to address the underlying limits of conventional asphalt.

SMA provides a stone-on-stone aggregate structure that delivers superior load-bearing capacity and resistance to deformation, while HiMA technology enhances the binder with higher polymer content to improve elasticity, crack resistance, and fatigue performance. For airport applications, this pairing represents a shift in pavement engineering for surfaces exposed to high stress and slow-moving loads.

IMPACT

Advanced asphalt systems like HiMA are helping redefine long-term pavement performance by increasing resistance to rutting and cracking under heavy traffic, improving durability against water infiltration and freezing temperatures, and extending service life. For airport operators, these benefits mean fewer disruptions, lower life cycle costs, and more reliable infrastructure in an industry where downtime is non-negotiable.

CONCLUSION

The upgraded runway surface helps Václav Havel Airport better support continued passenger growth while maintaining safe and efficient operations. The project also offers a scalable model for airports facing similar pressures, showing how performance-driven materials can deliver immediate results and long-term value.

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26,000
square meters

paved with

300
metric tons

of stone mastic
asphalt (SMA)

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