LaVision

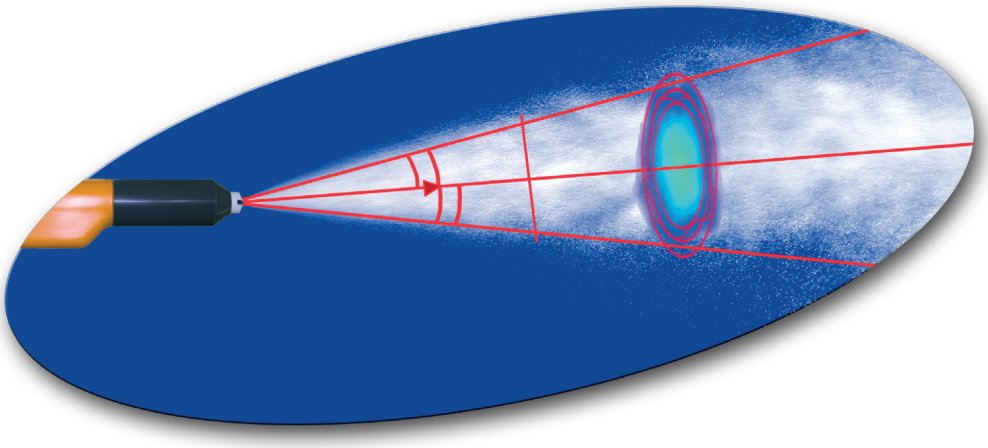
FOCUS ON IMAGING

Characterizing Paint & Coating Sprays

For online production monitoring, quality control and R&D applications

Digitization of Paint and Coating Sprays

Improve your spray performance and coating processes with LaVision's fast, non-intrusive digital spray characterization systems. **SprayMaster *inspex*** systems measure spray pattern and spray plume geometry. **ParticleMaster *inspex*** systems give you detailed analysis of droplet / particle size, shape & velocity. The multifunctional systems are designed for detailed spray characterization for quality control and production monitoring as well as for R&D in paint and coating atomization processes.



Applications

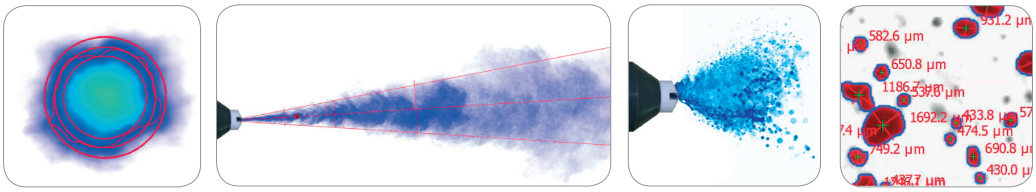
- online monitoring of coating processes
- fast quality control (QC) during spray nozzle production
- spray process optimization and spray nozzle design optimization in R&D

Advantages

Digital spray characterization offers many advantages to achieve the best spray properties:

- fast spray measurement and testing
- quantitative results
- objectified spray data
- integration into process chain

Full spray charachterization



Full visualization and digitization of spray plume and pattern geometry, e.g.

- plume geometry, angle, penetration etc.
- spray plume videos (temporal spray development)
- spray break-up
- pattern geometry, size, homogeneity, circularity etc.
- particle & droplet characterization including size, shape, velocity and mass flux

LaVisionUK Ltd
2 Minton Place / Victoria Road
Bicester, Oxon / OX26 6QB / United Kingdom
E-Mail: sales@lavision.com / www.lavisionuk.com
Phone: +44-(0)-870-997-6532 / Fax: +44-(0)-870-762-6252

LaVision GmbH
Anna-Vandenhoeck-Ring 19
D-37081 Göttingen / Germany
E-Mail: info@lavision.com / www.lavision.com
Tel. +49-(0)551-9004-0 / Fax +49-(0)551-9004-100

LaVision Inc.
211 W. Michigan Ave. / Suite 100
Ypsilanti, MI 48197 / USA
E-Mail: sales@lavisioninc.com / www.lavisioninc.com
Phone: (734) 485 - 0913 / Fax: (240) 465 - 4306

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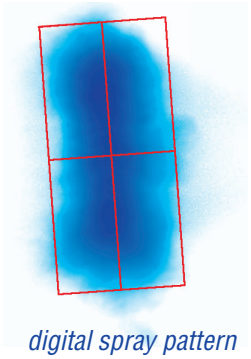
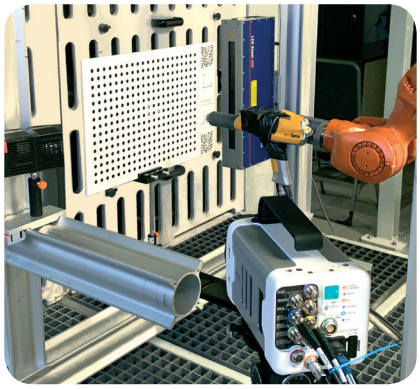
LaVision's **SprayMaster** and **ParticleMaster *inspex*** systems were used to measure spray geometry and particle size distributions on a robotic powder spray system at Fraunhofer IPA Stuttgart. Researchers at the IPA Powder Application Technology group are using this data to optimize powder application processes to:

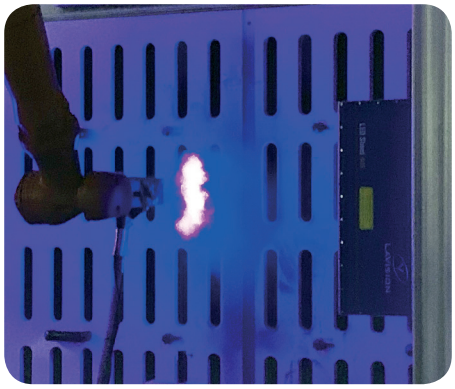
- minimize overspray
- monitor recirculate
- deterioration / fouling of spray nozzle
- increase efficiency / reduce wastage

Spray pattern charachterization

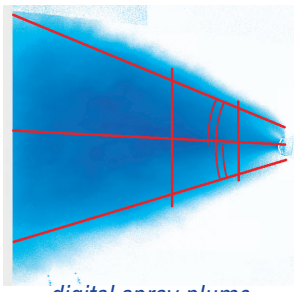


digital spray pattern

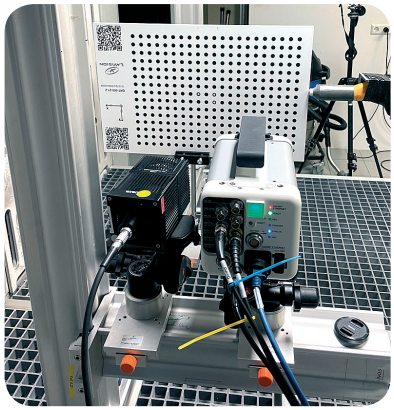




Spray plume charachterization



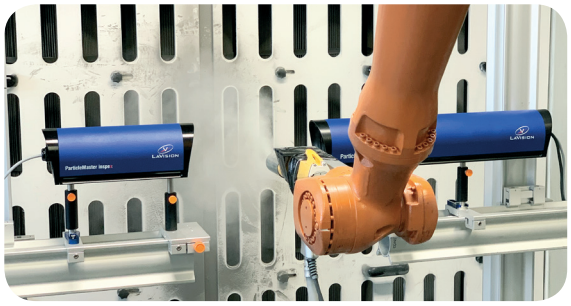
digital spray plume

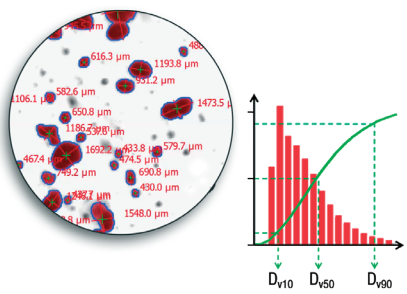


Common experimental setup at a test bench at Fraunhofer-IPA institute, Stuttgart

Digital spray patterns were recorded using LaVision's LED light sheet technology. High-speed imaging was used to evaluate the transient development of the spray plume.

Particle size distributions and velocities were measured with a **ParticleMaster *inspex*** digital image analysis system.





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